KONICA MINOLTA

DIRECT DIGITIZER

REGIUS MODEL 190 (DD-941)

INSTALLATION MANUAL

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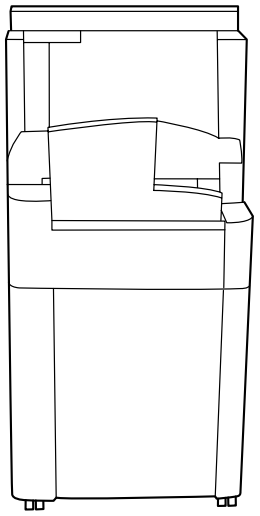

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Table of Contents

Forward i
Features of REGIUS MODEL 190 ii
ALERT SYMBOL MARK iii
OTHER SYMBOL MARKS iii
WARNING NOTICES (SIGNAL WORDS) iv

Cautions relating to Laws 1
Warning Labels 3
Cautions for Handling the REGIUS MODEL 190 8
Cautions for Handling Cassettes and Plates 9
Cautions during Servicing 11
Cautions Relating to Disposal 13
Life Expectancy of Parts 14

1. Overview

1.1 Installation Flowchart 1-1

1.2 Name of Parts 1-2
1.2.1 REGIUS 190 1-2
1.2.2 Option (CS-2/3 LCD Mounting Table with Arm (Table)) 1-3
1.2.3 Option (CS-2/3 LCD Mounting Table with Arm (PC Rack)) 1-4

1.3 Preparation for the Installation 1-5
1.3.1 Requirements for the Installation 1-5
1.3.2 Tools and Jigs for the Installation 1-6

1.4 Specifications 1-7

2. Installation of REGIUS MODEL 190

2.1 Unpacking 2-1
2.1.1 Unpacking of REGIUSMODEL 190 2-1
2.1.2 Removing of Fixing Hardware 2-9
2.1.3 Checking of Fixing Hardware 2-17

2.2 Checking of Input Voltage 2-19

2.3 Checking after Installation 2-20
2.3.1 Power Connection 2-20
2.3.2 Power ON 2-20
2.3.3 Connecting to Network 2-21
2.3.4 Fixing of Adjuster Foot 2-22
2.3.5 Checking of Cassette 2-22

3. Installation of the Optional Equipment

3.1 Installation of CS-2/3 LCD Mounting Table with Arm (Table) 3-1

3.2 Installation of CS-2/3 LCD Mounting Table with Arm (PC Rack) 3-9

3.3 Installation of CS LCD Monitor Fixing Metal. 3-14

Forward

Direct Digitizer REGIUS MODEL 190 (hereafter referred to as REGIUS MODEL 190) is a device for reading an X-ray image cassette that uses photostimulable fluorescent material as an X-ray detector.

This Installation Manual provides the procedures of installing the REGIUS 190 for a field service engineer.

Be sure to carefully read and understand this manual before installing the REGIUS 190.

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- Windows 2000 is an abbreviation of Microsoft ® Windows ® 2000 Professional operating system.
- The company and product names described in this manual are trademarks of their respective companies.

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Features of REGIUS MODEL 190

(1) With the application of photostimulable fluorescent material, the X-ray images can be digitized directly.

(2) Wider dynamic range than film, allowing a large amount of diagnostic data acquisition.

(3) Wide latitude with respect to the emitted X-ray, minimizing fluctuations in exposures.

(4) Approx. 40 seconds of the cassette feed/load time for reading 14” x 14” cassette at 175μm saves a patient from waiting.

(5) Displaying images on the LCD of Console just after exposure allows the doctor to check images on the spot.

(6) Sampling pitch can be selected from 43.75μm, 87.5μm and 175μm depending on diagnostic purposes.

(7) New scanning method using a semiconductor laser allows space-saving design. (Installation space: 58cm x 58cm)

(8) Capability to transfer the digital image data to a host computer allows the system to be used as a PACS dedicated X-ray image acquisition device.

(9) Up to 16 units of REGIUS 190 can be connected to the REGIUS Console CS-3.

ALERT SYMBOL MARK

Safety Alert Symbol

This is the industry "Safety Alert Symbol". This symbol draws your attention to items and operations associated with the use of this equipment that could result in danger to yourself and others. Please read all messages next to alert symbol marks, and follow the directions very carefully. Before assembling or using this equipment, it is important that you read the instructions and safety precautions.

OTHER SYMBOL MARKS

The meaning of following symbol marks described in this equipment and this manual is as the following table.

No.	Symbol	Meaning of Symbol
1		Danger, Warning or Note. Read the description that bears this symbol.
2		Alternating current
3		Protective earth (ground)
4		OFF (power: disconnection from the mains)
5		ON (power: connection to the mains)
6		Stand by ON/OFF (The main power source will still be ON even when this is turned OFF.)
7		Dangerous voltage.
8		Type B-applied part.
9		High temperature cautions. The part indicated with this symbol becomes very hot.

10		Caution for electrostatic. Internal parts of the device may get damaged due to electrostatic.
11		Touching the parts indicated with this mark is prohibited. It may cause electrocution or hand may become entangled in the device.

WARNING NOTICES (SIGNAL WORDS)

(1) Signal words provide an indication of the degree of danger concealed within the product.

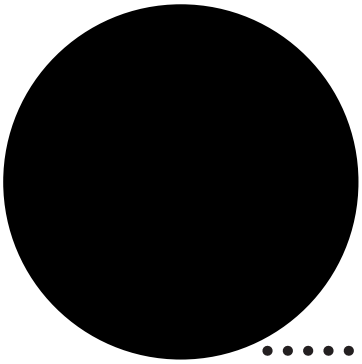
(2) This manual uses three different signal words depending on the probability and severity of injury or damage as explained below.

DANGER : Indicates an acute hazard that will result in death or serious injury if not avoided.
WARNING : Indicates a danger that may result in death or serious injury if not avoided.
CAUTION : Indicates a danger that may result in medium-level wound or minor injury if not avoided. It is also used to indicate anticipation of a danger of physical damage only.

		Probability of damage	
		High	Low
Bodily injury and (damage to equipment)	Death or serious injury (serious damage)	DANGER	WARNING
	Medium-level wound or minor injury (minor damage)	WARNING or CAUTION	CAUTION
Physical damage only		CAUTION	

(3) In this manual, in addition to the above warning notices, reference notes providing supplementary explanations are indicated as follows.

<IMPORTANT>Indicates a supplementary note.



CAUTION

The basic cautions to be observed when installing or operating the REGIUS MODEL 190 are described in this chapter. Be sure to read the descriptions in this chapter and drive the users home to them.

Cautions relating to Laws

Following cautions must be observed when handling the REGIUS MODEL 190 and become thoroughly familiar with the correct method of usage.

Cautions relating to Laser Regulations

WARNING

The reader device uses a laser light and high voltage.
NEVER remove the external panel.
If you remove the external panel, you may be exposed to laser light or receive an electric shock.
Specifications of laser unit on the REGIUS MODEL 190 are:
Class: IIIb*
Medium: Semiconductor laser
Wavelength: 660 nm
Maximum output: 80 mW (CW)

* The REGIUS MODEL 190 is a laser class-1 product.

Be certain to comply with any and all laws and government regulations including electric codes and utility regulations regarding the installation and operation of this equipment.

Precautions to be observed when using medical electrical equipment (to ensure safety and prevent danger)

1. Ensure that only a trained or approved operator uses the equipment.

2. When installing the equipment, observe the following precautions.
   (1) Install the equipment in a location where it is not exposed to water.
   (2) Install the equipment in a location where there is no likelihood of being adversely affected by atmospheric pressure, temperature, humidity, drafts, light, dust, or air containing salt, or sulfur, etc.
   (3) Install the equipment in a stable location. Do not install it on an inclined surface and avoid vibration or shock (including during transportation).
   (4) Do not install the equipment in a location where chemical reagents are stored or where chemical fumes may be present.
   (5) Check the frequency, voltage and allowable current (or power consumption) of the power source.
   (6) Confirm the conditions of the batteries (how exposed they are, or their polarity).
   (7) Ground the equipment well.

3. Before using the equipment, observe the following precautions.
   (1) Check the contact state of the switches, the polarity dial setting, and the various meters, and confirm that the equipment operates normally.
   (2) Make sure that the equipment is well grounded.
   (3) Make sure that all the cables are connected correctly and safely.
   (4) Using two X-ray devices at the same time may result in an incorrect diagnosis or hazards to people.
   So, extreme care should be taken.
   (5) Check the batteries.

<IMPORTANT>Should this manual become not readable due to any reason, replace it with a new one which is available at charged basis.

4. When using the equipment, observe the following precautions.

(1) Be careful not to exceed the time period and the amount of X-rays required for diagnosis or treatment.
(2) Always monitor the entire equipment and a patient for safety.
(3) If an abnormality occurs on the equipment or a patient, take appropriate measures (i.e. turn off the equipment ensuring the safety for patient, etc.), to ensure patient protection.
(4) Do not allow a patient to touch the equipment.

5. After using the equipment, observe the following precautions.

(1) Return the switches and dials to their original positions in the specified procedure, and turn the equipment OFF.
(2) When disconnecting the cables, do not pull the cables or apply an excessive force to them.
(3) Observe the following precautions concerning the storage location.
- Store the equipment in a location where it is not exposed to water.
- Store the equipment in a location where there is no likelihood of being adversely affected by atmospheric pressure, temperature, humidity, drafts, light, dust, or air containing salt, or sulfur, etc.
- Store the equipment in a stable location. Do not store it on an inclined surface and avoid vibration or shock (including during transportation).
- Do not store the equipment in a location where chemical reagents are stored or where chemical fumes may be present.

(4) Keep all accessories, cables, terminals, etc. neatly after cleaning them.
(5) Be sure to keep the equipment clean for next use.

6. In the event that the equipment operates incorrectly or breaks down, do not try to repair it yourself. Have a trained engineer to repair it.

7. Never attempt to modify the equipment.

8. Maintenance and Inspection

(1) Inspect the equipment and its components regularly.
(2) If the equipment has not been used for an extended period of time, clean the equipment and make sure it operates safely before using it.

9. Operate the equipment correctly according to the Operation Manual.

Disposing of the system

When disposing of the following used parts, accept the regulations of each local government.

1) REGIUS MODEL 190 main body and components
2) REGIUS MODEL 190 packing materials
3) REGIUS MODEL 190 accessories, and their packing materials.

Fluorescent medium which contains toxic substance is used on the REGIUS Plate. Replacement and disposal of the REGIUS Plate should be carried out only by qualified service engineer.

<IMPORTANT>Should this manual become not readable due to any reason, replace it with a new one which is available at charged basis.

Warning Labels

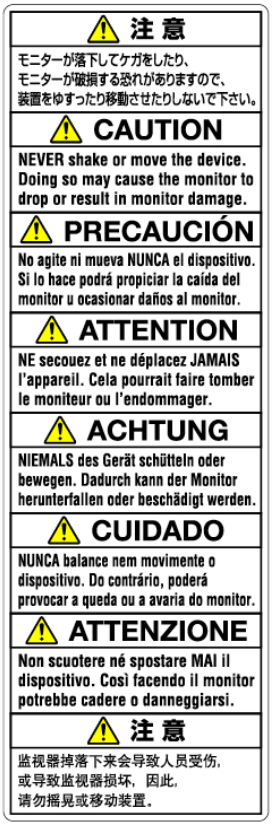
Warning and Caution labels stuck on the REGIUS 190 are as follows.

CAUTION To prevent accident during servicing, never peel or soil the labels on the REGIUS MODEL 190.

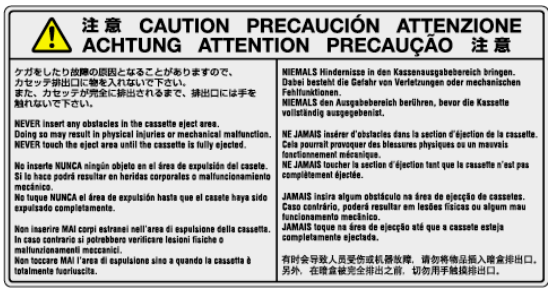
CAUTION If the label gets soiled or falls off, and the caution is no Longer legible, replace it with a new one.

• Warning Labels

• Warning for LCD fall


注 意
モニターが落下してケガをしたり、
モニターが破損する恐れがありますので、
装置をゆすったり移動させたりしないで下さい。
CAUTION
NEVER shake or move the device.
Doing so may cause the monitor to drop or result in monitor damage.
PRECAUCIÓN
No agite ni mueva NUNCA el dispositivo.
Si lo hace podrá propiciar la caída del monitor u ocasionar daños al monitor.
ATTENTION
NE secouez et ne déplacez JAMAIS l'appareil. Cela pourrait faire tomber le moniteur ou l'endommager.
ACHTUNG
NIEMALS des Gerät schütteln oder bewegen. Dadurch kann der Monitor herunterfallen oder beschädigt werden.
CUIDADO
NUNCA balance nem movimente o dispositivo. Do contrário, poderá provocar a queda ou a avaria do monitor.
ATTENZIONE
Non scuotere né spostare MAI il dispositivo. Così facendo il monitor potrebbe cadere o danneggiarsi.
注 意
监视器掉落下来会导致人员受伤,
或导致监视器损坏, 因此,
请勿摇晃或移动装置。

• Warning for Cassette Ejection Slot


注意 CAUTION PRECAUCIÓN ATTENZIONE
ACHTUNG ATTENTION PRECAUÇÃO 注意
ケガをしたり故障の原因となることがありますので、
カセッテ排出口に物を入れないで下さい。
また、カセッテが完全に排出されるまで、排出口には手を触れないで下さい。
NEVER insert any obstacles in the cassette eject area.
Doing so may result in physical injuries or mechanical malfunction.
NEVER touch the eject area until the cassette is fully ejected.
No inserte NUNCA ningún objeto en el área de expulsión del casete.
Si lo hace podrá resultar en heridas corporales o malfuncionamiento mecánico.
No toque NUNCA el área de expulsión hasta que el casete haya sido expulsado completamente.
Non inserire MAI corpi estranei nell'area di espulsione della cassette.
In caso contrario si potrebbero verificare lesioni fisiche o malfunzionamenti meccanici.
Non toccare MAI l'area di espulsione sino a quando la cassetta è totalmente fuoriuscita.
NIEMALS Hindernisse in den Kassenausgabebereich bringen.
Dabei besteht die Gefahr von Verletzungen oder mechanischen Fehlfunktionen.
NIEMALS den Ausgabebereich berühren, bevor die Kassette vollständig ausgegebenist.
NE JAMAIS insérer d'obstacles dans la section d'éjection de la cassette.
Cela pourrait provoquer des blessures physiques ou un mauvais fonctionnement mécanique.
NE JAMAIS toucher la section d'éjection tant que la cassette n'est pas complètement éjectée.
JAMAIS insira algum obstáculo na área de ejecção de cassetes.
Caso contrário, poderá resultar em lesões físicas ou algum mau funcionamento mecânico.
JAMAIS toque na área de ejecção até que a cassete esteja completamente ejectada.
有时会导致人员受伤或机器故障，请勿将物品插入暗盒排出口。
另外，在暗盒被完全排出之前，切勿用手触摸排出口。

• Warning for Cassette Magnetizing Plate

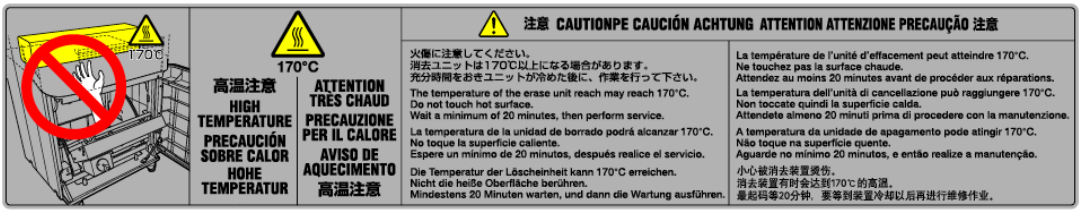
注意 CAUTION ACHTUNG PRECAUCIÓN
ケガをしたり装置が壊れるおそれがありますので、吸着板を外すときは修理マニュアルに従い、作業して下さい。
ALWAYS observe the instructions in the Service Manual when removing the magnet absorption plate.
Failure to do so may result in injuries or mechanical malfunction.
IMMER die Anweisungen in der Wartungsanleitung beim Entfernen der Magnetabsorptionsplatte beachten. Bei unsachgemäßer Handhabung besteht die Gefahr von Verletzungen oder mechanischen Fehlfunktionen.
Observe siempre las instrucciones ofrecides en el Manual de Servicio cuando quite la placa de absorción magnética. El no hacerlo podrá resultar en haridas o en un mal funcionamineto mecánico.

• Warning for High Temperature

注意 CAUTIONPE CAUCIÓN ACHTUNG
ATTENTION ATTENZIONE PRECAUÇÃO 注意
60°C
高温注意
HIGH TEMPERATURE
PRECAUCIÓN SOBRE CALOR
HOHE TEMPERATUR
ATTENTION TRÈS CHAUD
PRECAUZIONE PER IL CALORE
AVISO DE AQUECIMENTO
高温注意
火傷に注意してください。
60℃以上になる場合があります。
The temperature of the elevator section may reach 60°C. Do not touch hot surface.
La temperatura de la sección del elevador podrá alcanzar 60°C.
No toque la superficie caliente.
Die Temperatur der Hebesektion kann 60°C erreichen. Nicht die heiße Oberfläche berühren.
La température de la section d'élévateur peut atteindre 60°C. Ne touchez pas la surface chaude.
La temperatura della sezione dell'elevatore può raggiungere 60°C.
Non toccate quindi la superficie calda.
A temperatura da secção de elevação pode atingir 60°C. Não toque na superfície quente.
小心被升降部烫伤。
升降部有时会达到60℃的高温。

• Warning for Steel Belt

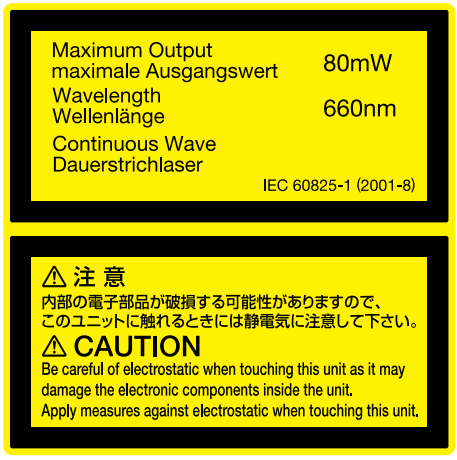
• Warning for High Temperature


170°C
170°C
高温注意
HIGH TEMPERATURE
PRECAUCIÓN SOBRE CALOR
HOHE TEMPERATUR
ATTENTION TRÈS CHAUD
PRECAUZIONE PER IL CALORE
AVISO DE AQUECIMENTO
高温注意
注意 CAUTIONPE CAUCIÓN ACHTUNG ATTENTION ATTENZIONE PRECAUÇÃO 注意
火傷に注意してください。
消去ユニットは170℃以上になる場合があります。
充分時間をおきユニットが冷めた後に、作業を行って下さい。
The temperature of the erase unit reach may reach 170°C.
Do not touch hot surface.
Wait a minimum of 20 minutes, then perform service.
La temperatura de la unidad de borrado podrá alcanzar 170°C.
No toque la superficie caliente.
Espere un mínimo de 20 minutos, después realice el servicio.
Die Temperatur der Löscheinheit kann 170°C erreichen.
Nicht die heiße Oberfläche berühren.
Mindestens 20 Minuten warten, und dann die Wartung ausführen.
La température de l'unité d'effacement peut atteindre 170°C.
Ne touchez pas la surface chaude.
Attendez au moins 20 minutes avant de procéder aux réparations.
La temperatura dell'unità di cancellazione può raggiungere 170°C.
Non toccate quindi la superficie calda.
Attendete almeno 20 minuti prima di procedere con la manutenzione.
A temperatura da unidade de apagamento pode atingir 170°C.
Não toque na superfície quente.
Aguarde no mínimo 20 minutos, e então realize a manutenção.
小心被消去装置烫伤。
消去装置有时会达到170℃的高温。
最起码等20分钟，要等到装置冷却以后再进行维修作业。

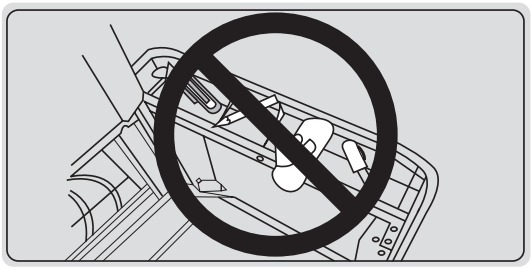
• Warning for Foreign Object

• Warning for Laser (External)

• Warning for Laser



•Do not place anything on the inner shelf.



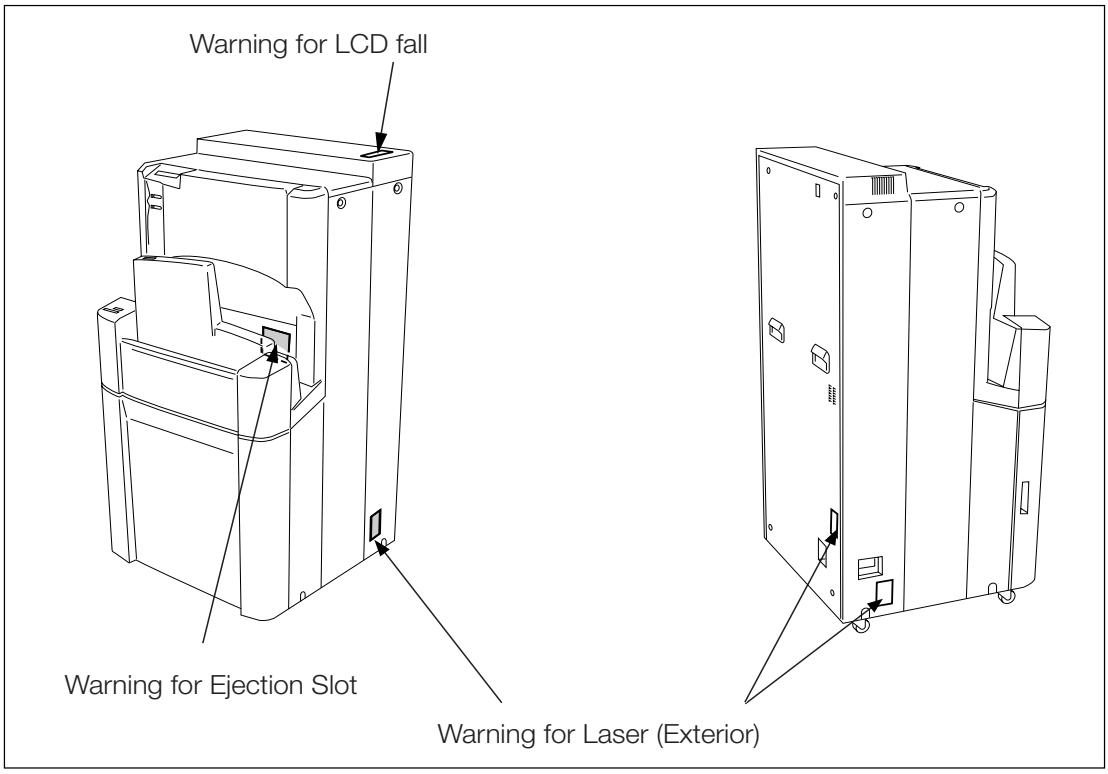
• Warning for Electrostatic

• Warning for CS-2/3 LCD Mounting Table with Arm (Table)

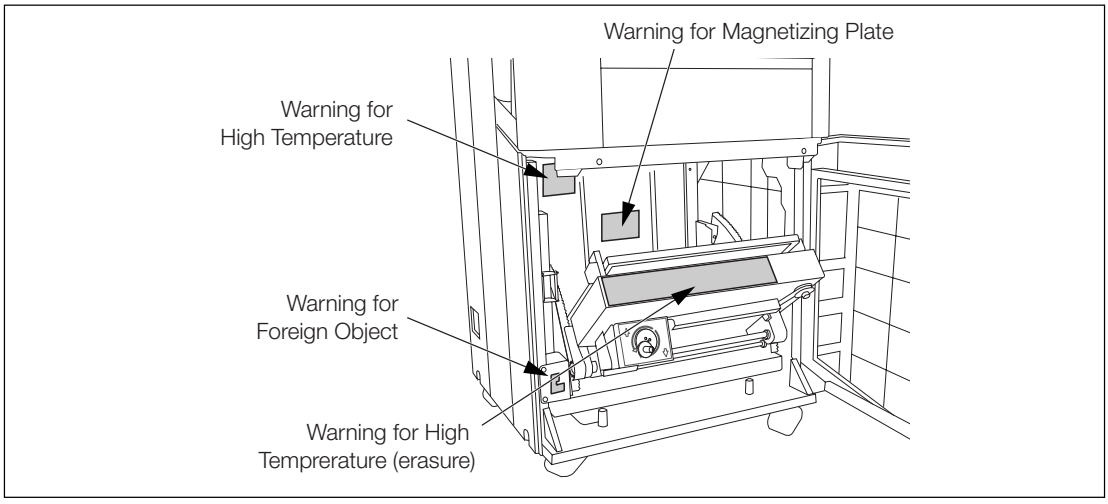
⚠ CAUTION
Do not hang from or lean on the arm.
Be sure not to pinch your fingers between the moving parts.
⚠ 注意
アームやモニタにぶら下がったり、もたれ掛かったりしないでください。
アームを動かすときは、可動部に指や手をはさみ込まないようにしてください。
⚠ VORSICHT
Sich nicht auf Arm oder Monitor stützen oder an ihm festhalten.
Die Finger nicht zwischen den beweglichen Teilen des Arms einklemmen.
⚠ ATTENTION
Ne vous suspendez pas ou ne vous appuyez pas sur le bras ou l'écran.
Ne vous pincez pas les doigts dans les parties mobiles du bras.
⚠ PRECAUCIÓN
No se agarre ni apoye en el brazo o el monitor.
Tenga cuidado de no pellizcarse los dedos entre las partes móviles del brazo.
⚠ ATTENZIONE
Não se suspenda nem se apóie no braço ou monitor.
Certifique-se de não prender os dedos entre as partes móveis do braço.
⚠ CUIDADO
Non appendersi né appoggiarsi sul supporto o monitor.
Fare attenzione a non schiacciarsi le dita tra le parti in movimento del supporto.
⚠ 注意
不要将臂或监视器支撑杆和悬吊臂。
移动支撑杆时，要注意手、手指不要被可动部夹住。

• **Location of Warning Labels**

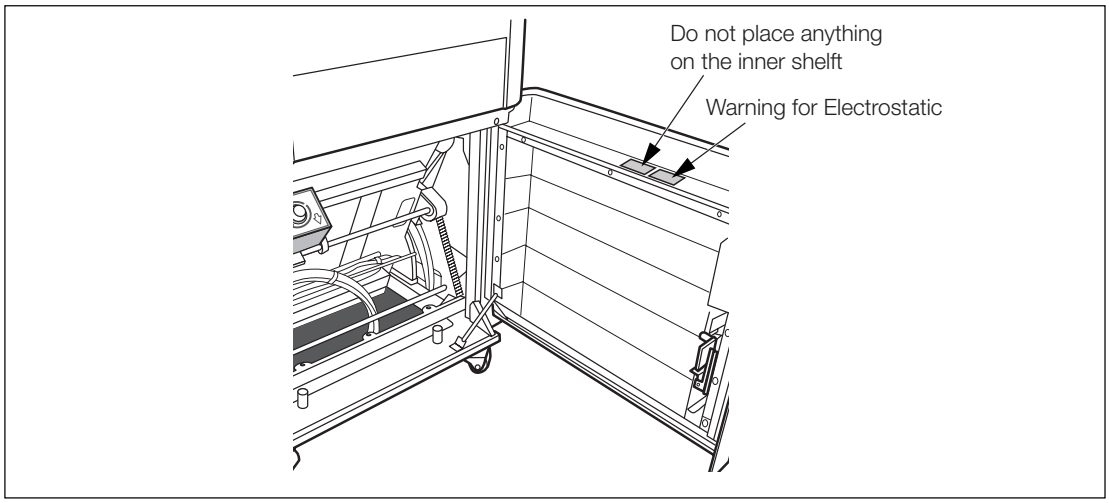
Exterior



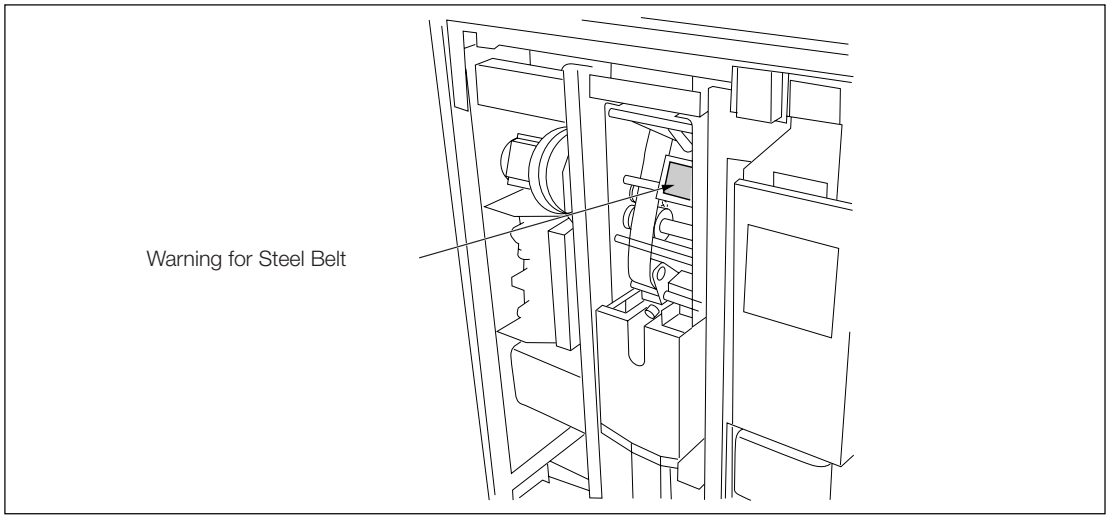
Transport Unit/Cassette Magnetizing Plate



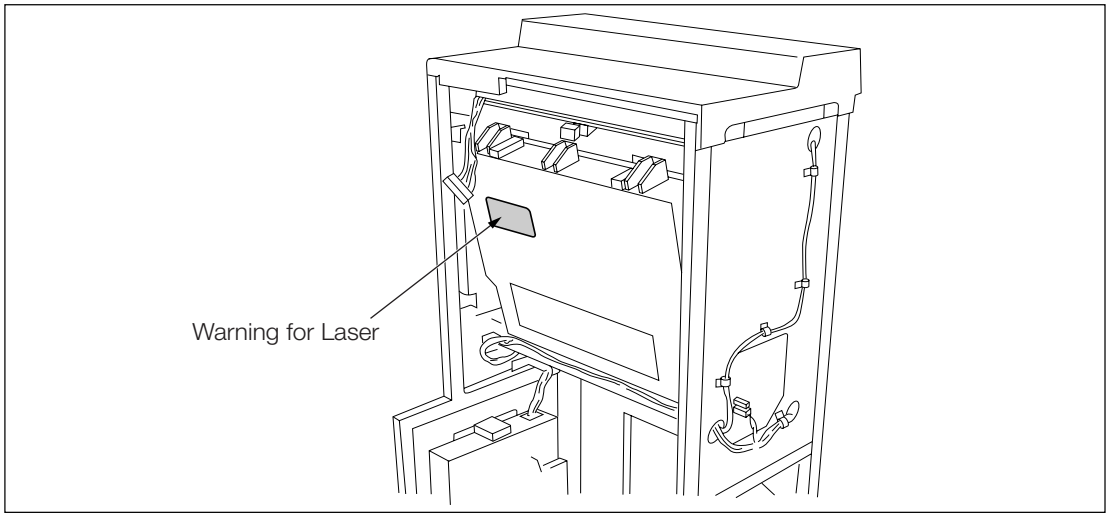
Front Door (inner shelf)



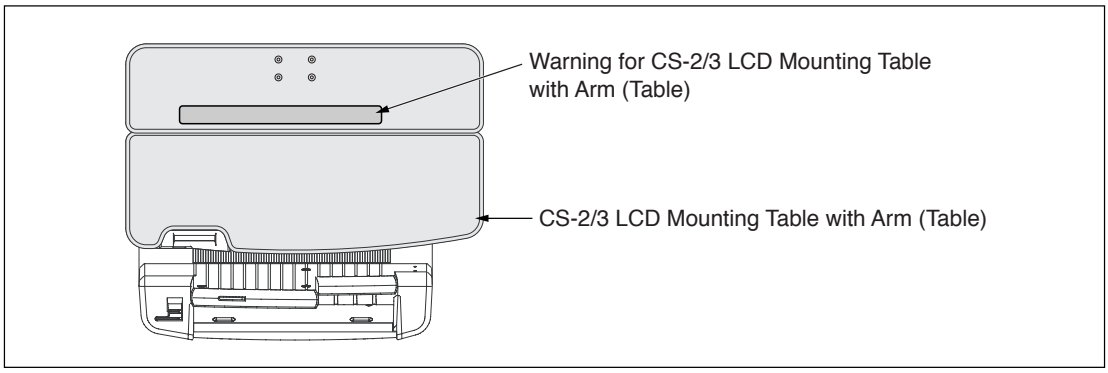
Steel Belt



Optical Unit



Warning for CS-2/3 LCD Mounting Table with Arm (Table)



Cautions for Handling the REGIUS MODEL 190

The following information should be read before proceeding with maintenance work. Those who are involved in servicing should become thoroughly familiar with these cautions relating to normal handling of the REGIUS MODEL 190.

CAUTION Failure to observe the cautions set out below will cause personal injury and/or damage to the equipment itself.

Cautions prior to Usage of the Equipment

- Cautions detailed in the user's manual accompanying the product must be carefully read and thoroughly understood.
- The power cable should be checked for damage.
- Check to ensure that the earth terminals are properly connected.
- Check that all cables are properly and firmly connected.
- Check to ensure that the LCD panel is not cracked or fractured.
- Check to ensure that the REGIUS MODEL 190 is operating normally and safely.
- The REGIUS MODEL 190 is furnished with air intake and outlet vents to prevent any rise in the internal temperature of the unit: ensure that these vents are not blocked.

Cautions Regarding Storage of the Product when Temporarily out of Use

- Power supply breakers should be switched off following prescribed procedures.
- When disconnecting, be sure to hold cables properly.
- All accessories and cables should be cleaned and set in order at
- the place of storage.
- In order to prevent problems the next time the product is used, the place of storage should be cleaned.

Cautions Regarding Usage after an Extended Period of None-Use

- Check the power cables for damage.
- Check that earth terminals are properly connected.
- Check that all cables are properly and firmly connected.
- Check to ensure that the LCD panel is not cracked or fractured.
- Check to ensure that the REGIUS MODEL 190 is operating normally and safely.
- Use of the unit with other equipment may result in erroneous diagnosis or pose danger: under such circumstances, the unit must be operated with utmost caution.
- The REGIUS MODEL 190 is furnished with air intake and outlet vents to prevent any rise in the internal temperature of the unit: ensure that these vents are not blocked.

Other Cautions

WARNING

If the REGIUS MODEL 190 produces any unusual noise, odor or smoke, power should be switched off immediately. Power should not be restored until the cause has been detected and the problem resolved.

- The Ethernet terminal should not be used for any other purpose, for example connection to telephone lines, than Ethernet connection.

Cautions for Handling Cassettes and Plates

The user should become thoroughly familiar with the following cautions before handling REGIUS cassettes (RC-110 Series) and REGIUS Plates (RP-3 Series)

- In this manual, REGIUS cassettes are referred to as "cassettes" and REGIUS plates as "plates."

Cautions Regarding Photo-stimulated Fluorescent Coating

WARNING

The surface of the plate incorporates a photo-stimulated fluorescent coating which is potentially harmful if ingested. In the event of leakage of the fluorescent coating (milky white) due to substantial damage to the protective layer on the plate, the following measures should be taken.

- If the coating is swallowed, a doctor should be consulted immediately.
- If the eyes are exposed to the coating, the eyes should be rinsed with clean water and a doctor consulted immediately.
- If the coating comes into contact with the skin, the affected area should be immediately rinsed with clean water.
- Even if the coating has not been ingested, care must be taken to ensure that no part of the body is contaminated and the plate disposed of following prescribed procedures.

When disposing the REGIUS Plate, accept the regulations of each local government.

Cautions to Ensure Maintenance of Image Quality

- Constant care must be taken to ensure that the reading surface of the plate is not damaged or soiled.
- Any contaminant (dust, etc.) that has attached to the reading surface of the plate should be removed by cleaning immediately.
- As for films, gloves must be worn when handling plates.
- Ensure that plates are not exposed to sunlight.
- Any procedures involving exposure of the plate to fluorescent light, such as cleaning, should be finished as quickly as possible and the plate immediately replaced in the cassette upon completion of the procedure.
- Care must be taken to ensure that the front plate does not become damaged or soiled.

Cautions Regarding Transportation and Storage

- **Temperature and humidity levels must be maintained within the following specified ranges.**

	Before unsealing the plate	After unsealing the plate
Temperature	10℃~40℃	10℃~30℃
Humidity	80%RH or lower (without condensation)	

- **Do not expose the plate to X or γ rays.**
- **If the cassette is transported or stored in its packing, ensure that the cassette is kept in horizontal position. Storage of cassettes in vertical position for extended periods or in a high-temperature environment may result in warping of the back plate.**
- **Once the plate is unpacked, store it in the cassette.**
- **Do not store the front and back plates separately. In particular, storage of the back plate separately in angled position may result in warping.**
- **Be careful not to drop or bump cassettes.**
- **As for previous cassettes, cassettes in use should be stored vertically in a rack.**

Cautions Before Inserting the Cassette

In order to avoid problems with cassette conveying operation inside the REGIUS MODEL 190, the following cautions should be observed:

- **Ensure that the locking mechanism is functioning properly and check for bending or other damage. Do not insert damaged cassettes into the REGIUS MODEL 190.**
- **Make sure that there is no paper clipped into the memo clip on the back plate.**
- **Make sure that there are no foreign objects such as clips between the front and back plates.**
- **In order to ensure that the back plate properly adheres to the**
- **absorption plate, check that there is nothing (e.g. tape) adhered to the back plate.**
- **Ensure that the bar code has not become soiled.**

Cautions Regarding Disposal

Disposal must be carried out by following the local regulations in each country.

- **If the protective layer on the plate is damaged and the photo-stimulated fluorescent coating leaking, be careful to handle the plate so that none of the photo-stimulated fluorescent coating comes into contact with the body.**
- **Lead foil is incorporated into all plates (RP-3S) except plates for mammograms (RP-3M). Disposal of such plates must be carried out in accordance with the appropriate waste disposal regulations.**

WARNING

When disposing the REGIUS Plate, accept the regulations of each local government.

Cautions during Servicing

The following cautions must be observed during servicing.

Cautions Relating to Personal Safety

DANGER

The REGIUS MODEL 190 incorporates a laser generator (class IIIb). Direct exposure of the body or the eyes to the laser will result in serious injury. Special purpose protective goggles must be worn while carrying out repairs or servicing.

- Only REGIUS MODEL 190 units with the multiple interlocks disengaged may be treated as class-I laser products.

WARNING

The REGIUS MODEL 190 incorporates high-voltage parts which pose the risk of electrocution if touched.

WARNING

To minimize risk, only properly trained service personnel are allowed to remove covers or handle internal components, etc.

WARNING

When in the proximity of moving parts such as motors, care must be exercised to ensure that parts of the body or clothing do become tangled in the mechanism.

WARNING

Before removing or replacing internal circuit boards, or disconnecting connectors or cables, the REGIUS MODEL 190 power supply must be switched off. Carrying out such procedures with the power on will result in serious injury and must always be avoided.

- Work procedures should be carried out properly and safely with due regard the descriptions of the warning labels.

Cautions Relating to Power Supply Voltage

WARNING

The voltage supply to the REGIUS MODEL 190 is AC110V or higher. To avoid electrocution, the following cautions must be observed:

- Check that the REGIUS MODEL 190 earth is properly connected.
- Ensure that all cables are properly connected and check for damage.
- Before carrying out work which may involve touching power supply lines, the power supply must be switched off.
- In cases where the power supply must be left on to carry out, for example voltage measurement, every precaution must be taken to avoid contact with power supply lines.

Cautions Relating to Lithium Batteries

The SCB2 (System Control Board) in the REGIUS MODEL 190 incorporates a lithium battery.

- Unless given specific instructions, the lithium battery should not be removed.
- In cases where the lithium battery must be removed, care must be exercised to avoid exposure to fire or water. Such exposure may cause the battery to explode.

Cautions Relating to Damage to the Equipment

CAUTION

The electronic circuits in the REGIUS MODEL 190 may be damaged by static electricity. The main body and any electrical parts removed should be handled with due care during installation and/or repairs.

CAUTION

An earthing strap should always be worn when handling circuit boards.

CAUTION

Never loosen the screws painted in white. Loosening these screws may disable the restoration of the normal status in the field.

Cautions Relating to the REGIUS Consoles

- Do not install the REGIUS Console directly on the floor.
- In the case that a vibration may be applied to the REGIUS Console when servicing the REGIUS Console, always shut down the REGIUS Console first, and wait for 30sec or more before starting the work.

Cautions Relating to Disposal

For the purposes of disposal, this product must be handled in accordance with the appropriate waste disposal regulations. Disposal of the product must be carried out in accordance with local ordinances and regulations.

Part that should be disposed of observing the local regulations	Location
Photo-stimulated fluorescent coating	Plate
Lead foil	Plate (except for mammo and long object)
Lithium battery	SCB2 (System Control Board)
Fluorescent tube	LCD panel

Main unit and packing material for optional equipments should also be disposed of observing the local regulations.

Life Expectancy of Parts

In order to ensure safe operation of the REGIUS MODEL 190, the part listed below should be replaced or serviced before its life expires.

Part	Life Expectancy
Eraser lamp	approx. 10000 shots

Regarding the Above Life Expectancy

- **The above figure is valid on condition that the part is used in accordance with prescribed cautions relating to usage and is properly maintained and inspected.**
- **The above figure should be used as a guide to estimate the timing of replacement.**

Period of Warranty

In accordance with the warranty, parts will be supplied at cost after expiry of the period of warranty (one year).

Chap1

Overview

Overview for the installation of REGIUS MODEL 190 is described in this chapter.

1.1 Installation Flowchart

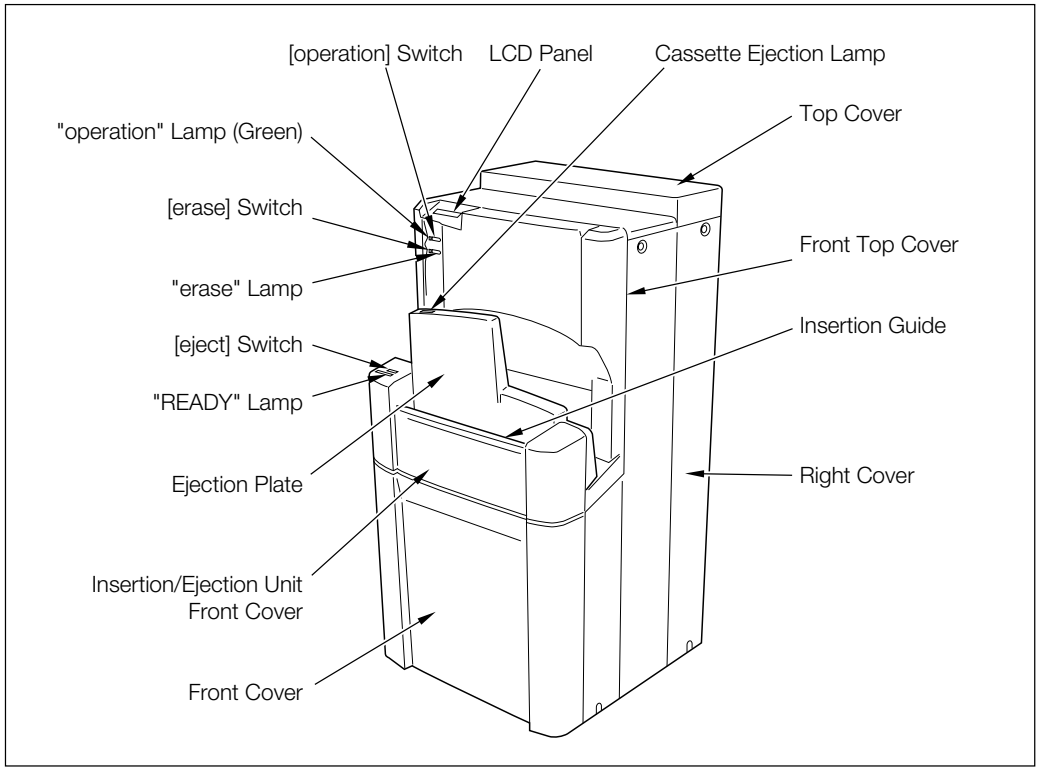
Follow the flowchart below in order to facilitate the installation of the REGIUS MODEL 190.

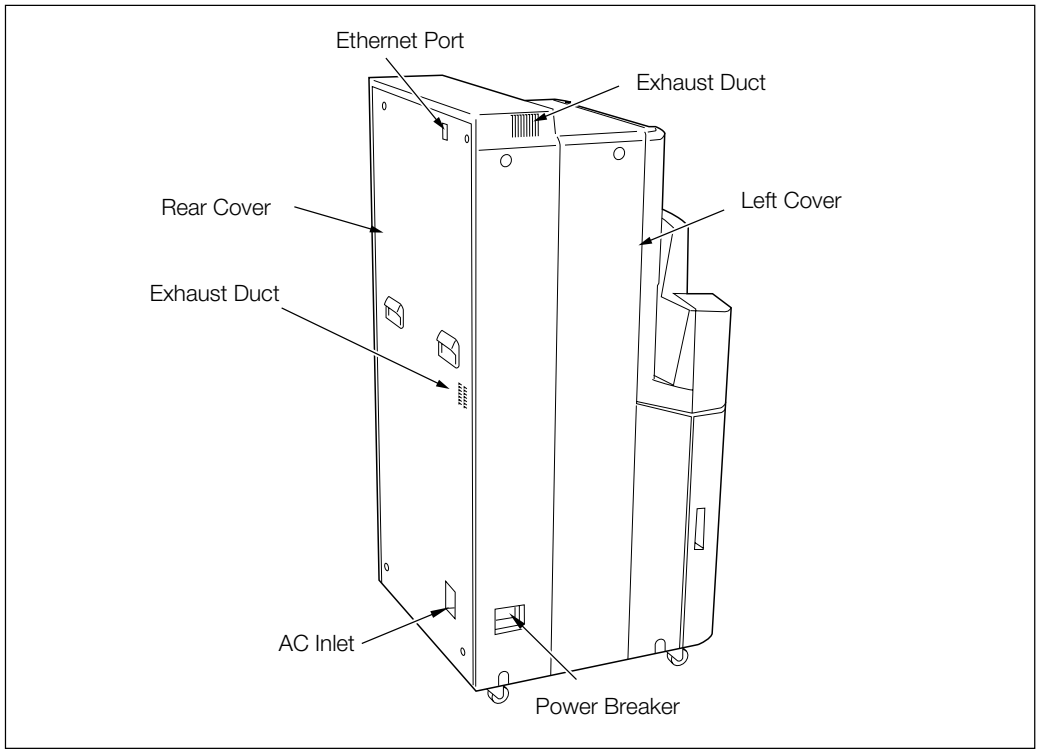
	Refer to
Unpacking	"2.1.1 Unpacking of REGIUSMODEL 190"
↓	
Move where the REGIUS MODEL 190 is installed	
↓	
Removing the fixing hardware	"2.1.2 Removing of Fixing Hardware"
↓	
Connecting the power cable	"2.3.1 Power Connection"
↓	
Checking the stand-alone operation	"2.3.2 Power ON"
↓	
Network connection	Refer to Installation/Service Manual for CS-3/CS-1.
↓	
Checking the output image	Refer to Installation/Service Manual for CS-3/CS-1.
↓	
Backing up the CF data	Refer to Installation/Service Manual for CS-3/CS-1.
↓	
Fixing the main unit with adjuster foot	"2.3.4 Fixing of Adjuster Foot"

CAUTION **Be certain to comply with any and all laws and government regulations including electric codes and utility regulations, regarding the installation and operation of this equipment.**

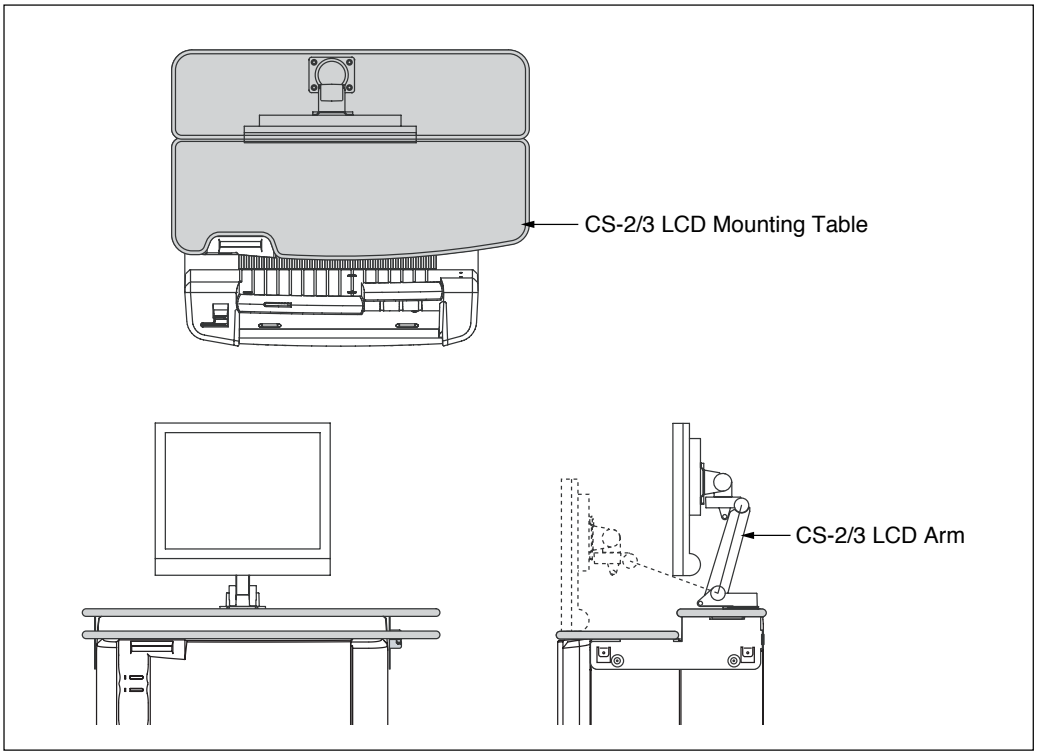
1.2 Name of Parts

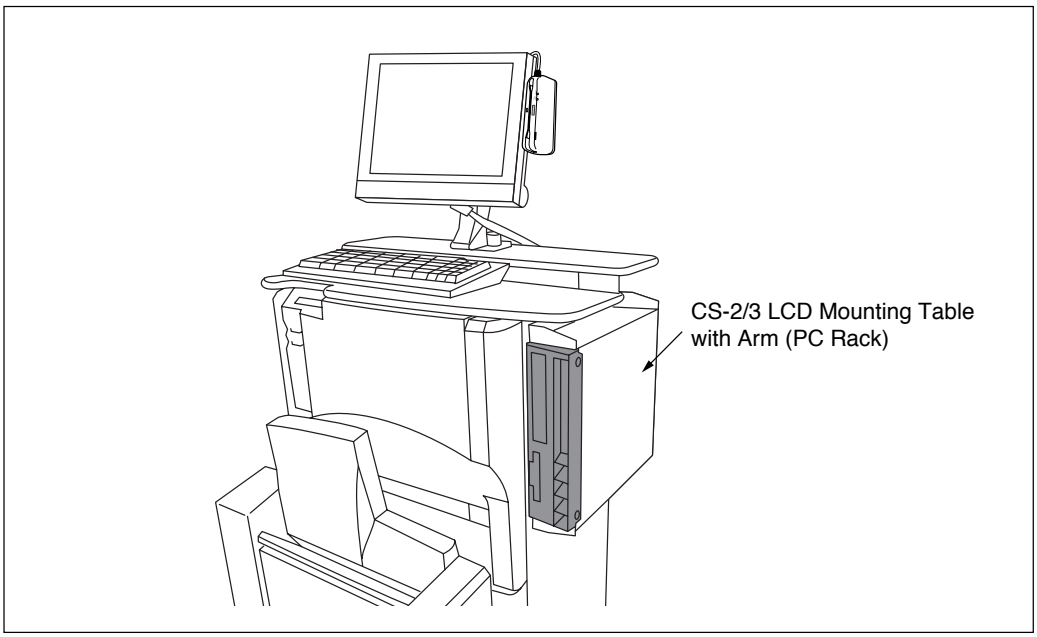
1.2.1 REGIUS 190



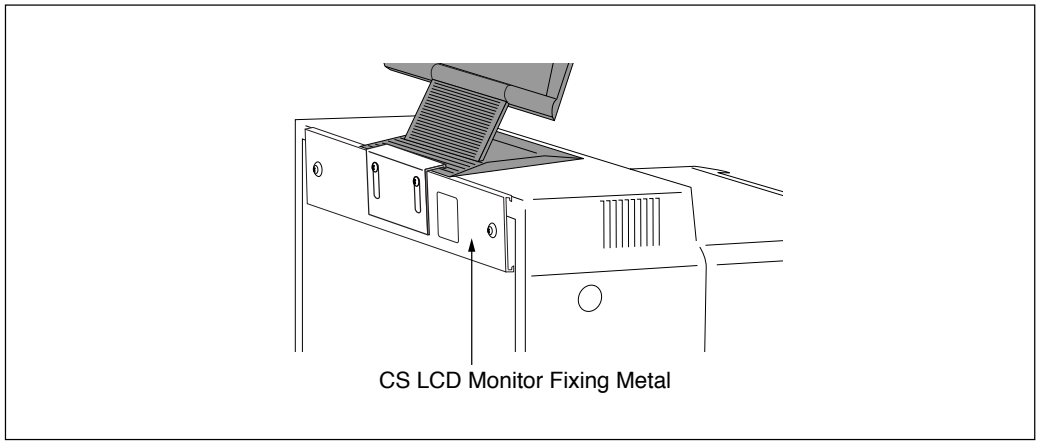


1.2.2 Option (CS-2/3 LCD Mounting Table with Arm (Table))





1.2.3 Option (CS-2/3 LCD Mounting Table with Arm (PC Rack))



<IMPORTANT>Please note that the CS LCD Monitor Fixing Metal and the CS-2/3 LCD Mounting Table with Arm (Table) are different in shape and purpose. The CS LCD Monitor Fixing Metal cannot be installed in combination with the CS-2/3 LCD Mounting Table with Arm (Table).

1.3 Preparation for the Installation

1.3.1 Requirements for the Installation

Ensure that the installation site meets the condition below.

Installation Site

- **Where is not subject to any water or wax.**
- **Where doesn't receive a direct sunlight.**

<IMPORTANT>If the insertion slot is subject to the direct sun light, the accuracy of the bar code reader may be lost.

- **Where is not affected or damaged by air pressure, temperature, humidity, wind, dust, salt content, flammable gas, sulfur.**
- **Where is not affected by the tilt, vibration or shock.**
- **Where is not on the OA floor or the bit for electrical piping.**

<IMPORTANT>When the caster or adjuster foot of the device is placed on these surfaces, artifact such as streak may appear on the image.

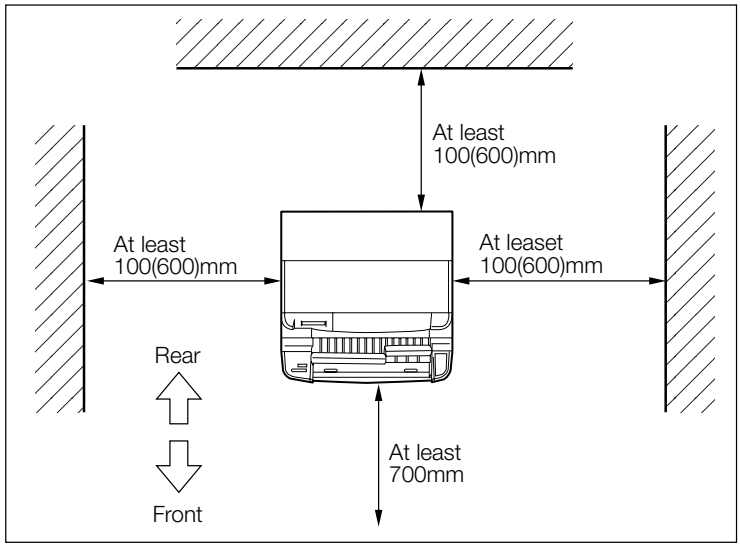
- **Where no chemical agent is stored.**
- **Where no gas is generated.**
- **Where is away from a source of noise.**

<IMPORTANT>Horizontal streaks (4~5 lines interval with 20~60steps) may appear when the REGIUS 190 is installed nearby the high frequency therapy equipment. Widen the distance from the high frequency therapy equipment or direct the antenna of the equipment not against the REGIUS 190.

- **Where is wide enough to go through when the cables are connected.**
- **Where the exhaust duct is not blocked.**

Installation Space

Ensure in advance that there is enough space (shown below) for installation. The value in ( ) shows the space required for the installation or maintenance work.



Carrying-in Route

Ensure that there is no bump or gradient, that may cause damage to the device, in the carrying-in route.
In addition, ensure that the entrance of the installation site is wide enough for the device to come through.

Dimension and Weights of Device

- Width: 580mm
- Depth: 580mm
- Height: 1230mm
- Weight: Approximately 170kg

1.3.2 Tools and Jigs for the Installation

- Cutter knife
- Phillips Screwdriver
- 26mm Spanner (for fixing the adjust foot)
- Long-nose plier
- Gloves (for work performed around the steel belt)

1.4 Specifications

Device Type	Direct Digitizer DD-941
Model Name	REGIUS MODEL 190
CODE No.	0676
Safety Standard	IEC60601-1, IEC60825
Film Size (Note 1)	14"X17"/14"X14"/11"X14"/10"X12"/8"X10"/24X30cm/18X24cm Mammography * : 24X30cm/18X24cm Pantomography : 15x30cm
Sampling Pitch (Note 2)	43.75µm * , 87.5µm and 175µm
Maximum Resolution	7080x9480
Digital Gradation Level	4096 steps12bit
Cycle Time	90 sh/hr (14"x 14"/175µm)
Cassette Feed/Load Time (Note 3)	approx. 40sec.(14"x 14"/175µm)
Slots	Insertion x 1 (+1 stack) Exit x 1 (4 cassettes in stack)
Dimensions	580(W)580(D)1230(H) mm
Weight	approx. 170kg (excluding the cassette)
Power Supply	AC100 ~ 240V±10% (50/60Hz), 1.1kw
Operation Condition	15 ~ 30℃/35 ~ 80RH% (no condensation)
Storage/Transportation Condition	–10~40:/10 ~ 95RH% (no condensation)
Noise Level	60dB or less
Classification	Class II (510K)
Electromagnetic Conformity	EMC Domestic Voluntary Control for medical use has been declared. (IEC06061-1-2, 2001)
Accessories	Power Cable, Operation Manual
Options	REGIUS Cassette, REGIUS Console, JM, JM-BOX

Note 1: * ; Exept the USA.
Note 2: * ; A separate license is required for the optional sampling pitch (43.75µm).
Note 3: Cassette Feed/Load Time ; Time required between cassette insertion and cassette exit.

Chap2

Installation of REGIUS MODEL 190

2.1 Unpacking

2.1.1 Unpacking of REGIUS-MODEL 190

Unpack the REGIUS MODEL 190 and move it where it should be installed.

WARNING

Two or more persons are required to unload the REGIUS MODEL170 from the skid in order to avoid a turnover accident.

CAUTION

Unpack the REGIUS MODEL 190 after placing the crate on the level floor. Unpacking the REGIUS MODEL 190 on the inclined floor, it may slip from the skid.

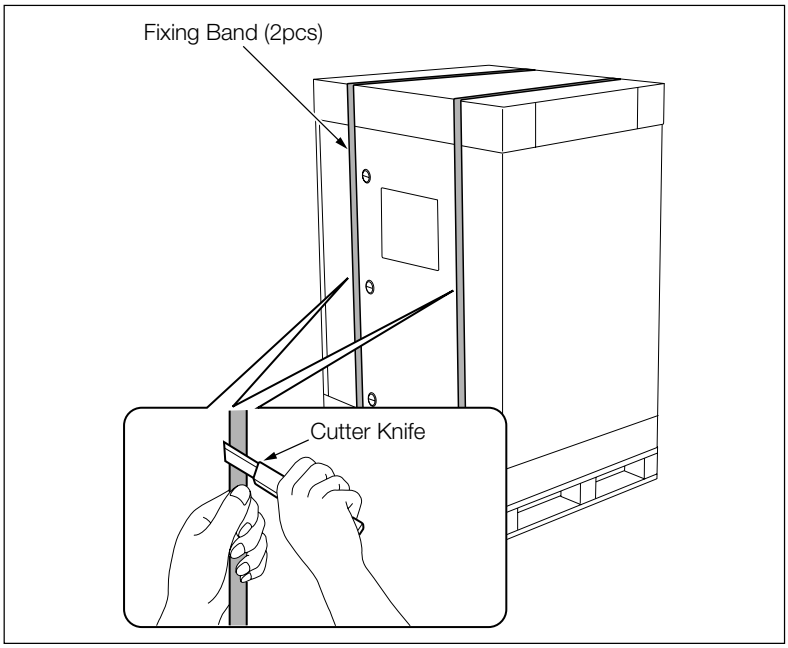
<IMPORTANT>Unpacking the REGIUS MODEL 190 immediately after it is carried in a facility may cause condensation due to the difference in temperature between the outside and room air. In order to avoid the condensation, leave the device about 1 hour after it is carried in.

<IMPORTANT>When unpacking the REGIUS MODEL 190 in a place other than the installation site, ensure that there is no bump or obstacle in the carrying-in route.

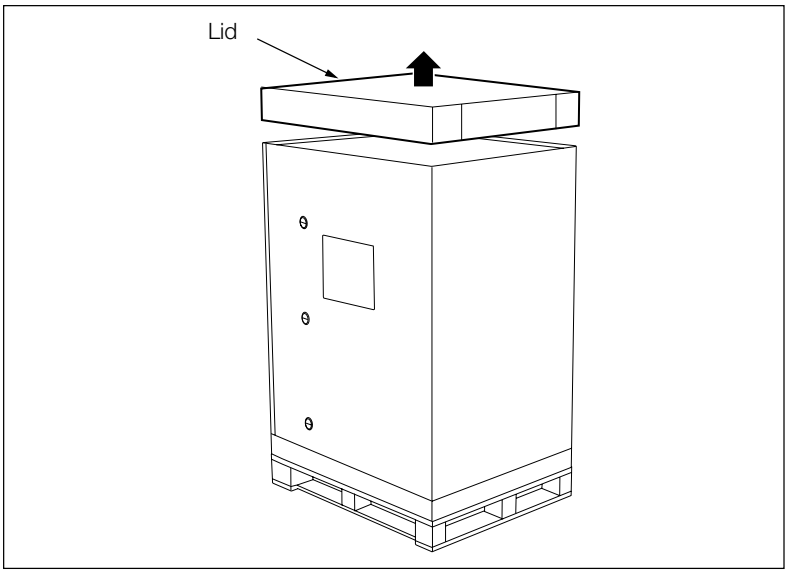
1. Using a cutter knife, cut the fixing band with holding it by one hand.

CAUTION

DON'T stand in front of the fixing band. The fixing band is strained tightly so that it may hit you at the time when it is cut.



2. **Remove the lid from the container box.**



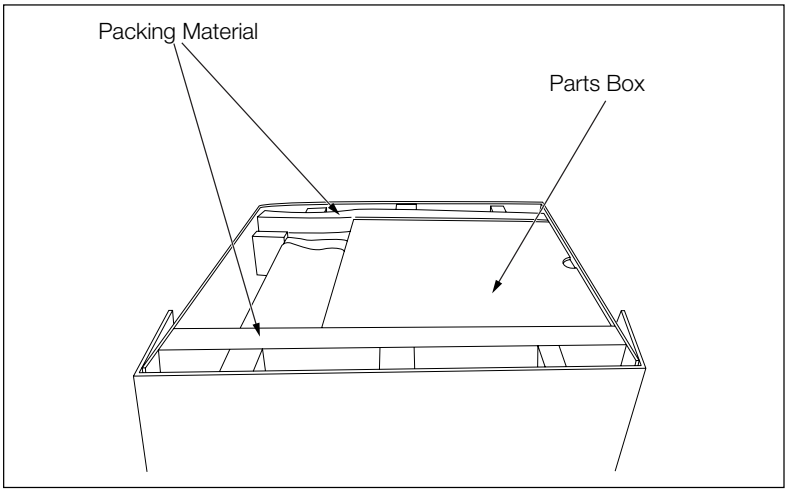
3. **Bring out the packing styrofoam (2pcs) and parts box (1pc) on top of the device.**

Following items are packed in the parts box.

- **Warranty**
- **Check List**
- **Operation Manual**
- **Declaration of conformity**

Be sure to give these 4 items above to the user after installation.

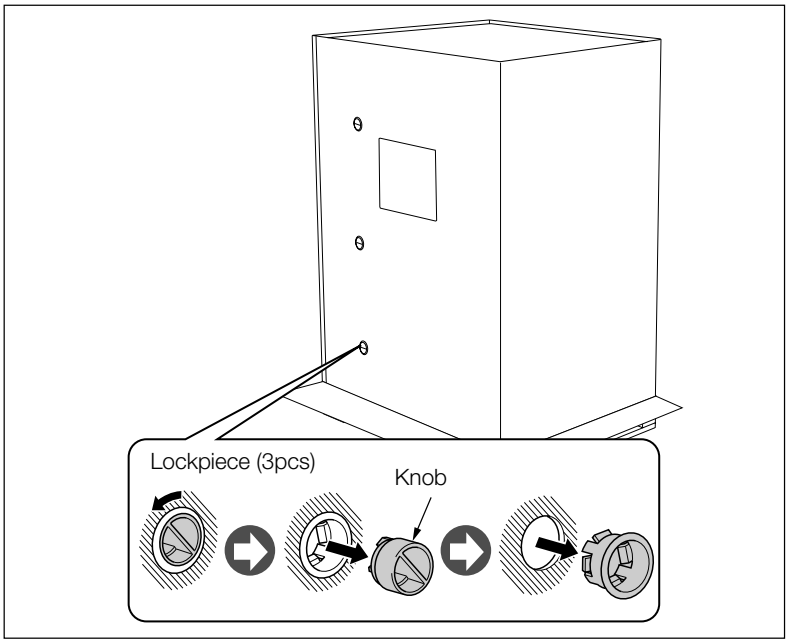
- **Accessory List**
- **Power Cable**
- **Collection Bag for Fixing Hardware**



4. **Cut the tape fixing the bottom corners of the outer carton (4 corners).**

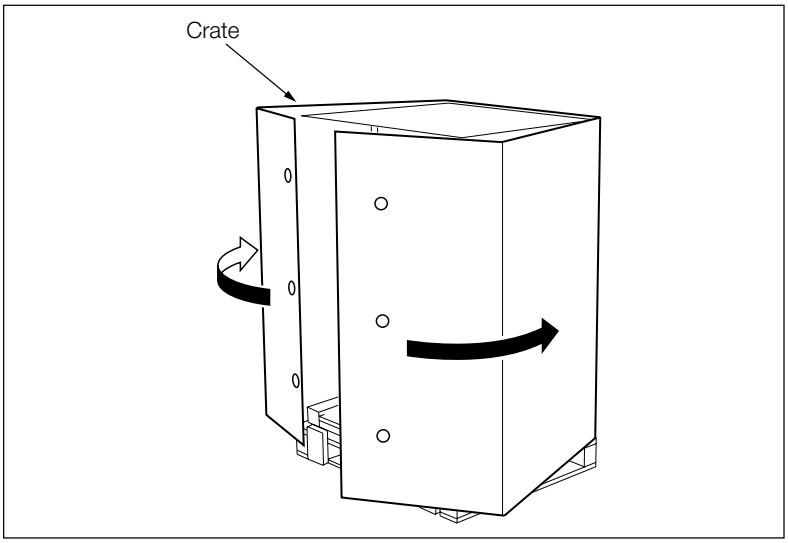
5. **Turn left the knobs (3pcs) in the “Lockpiece”, and remove them.**

Use a long-nose plier to easily turn the knob of the lockpiece.



6. **Pull out all 3 lockpieces from the outer carton.**

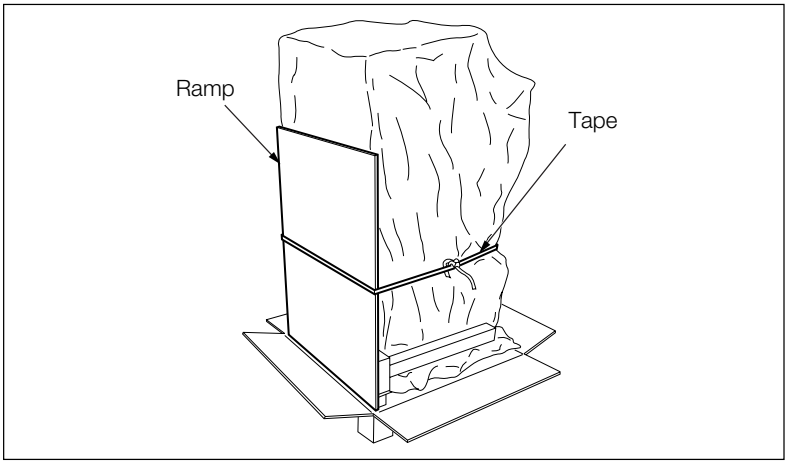
7. **Open the outer carton of the crate, and remove it.**



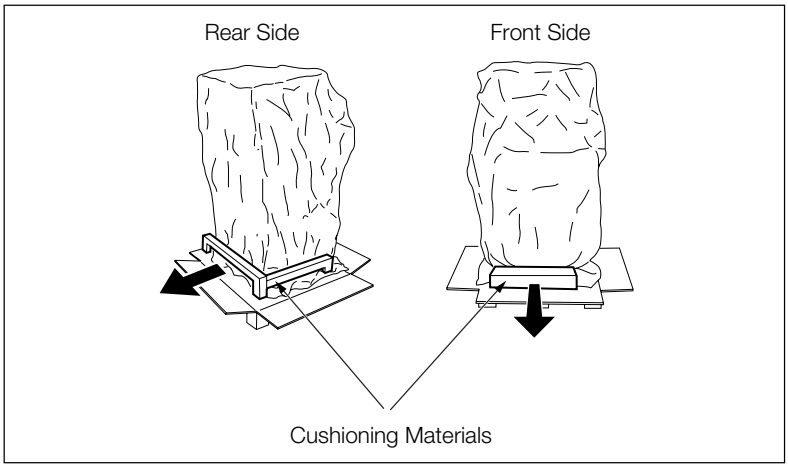
8. **Cut the tape to remove the slope, with supporting it so that it doesn't fall over.**

CAUTION **Cutting the tape without supporting the ramp may cause fall over trouble, resulting in serious damage to you.**

The clamp is put on the back side of the ramp, which will be used in the procedure 11.

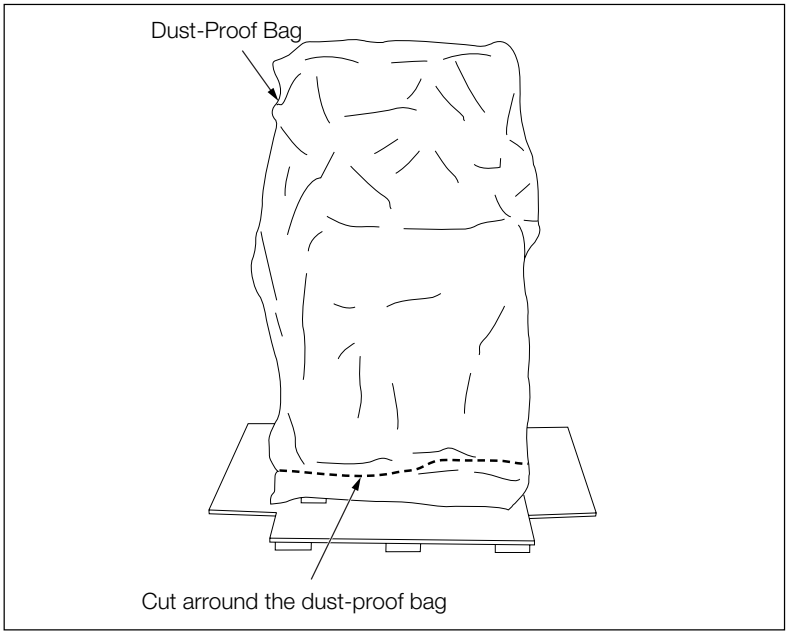


9. **Remove the cushioning styrofoam (2pcs) from bottom of the REGIUS MODEL 190.**

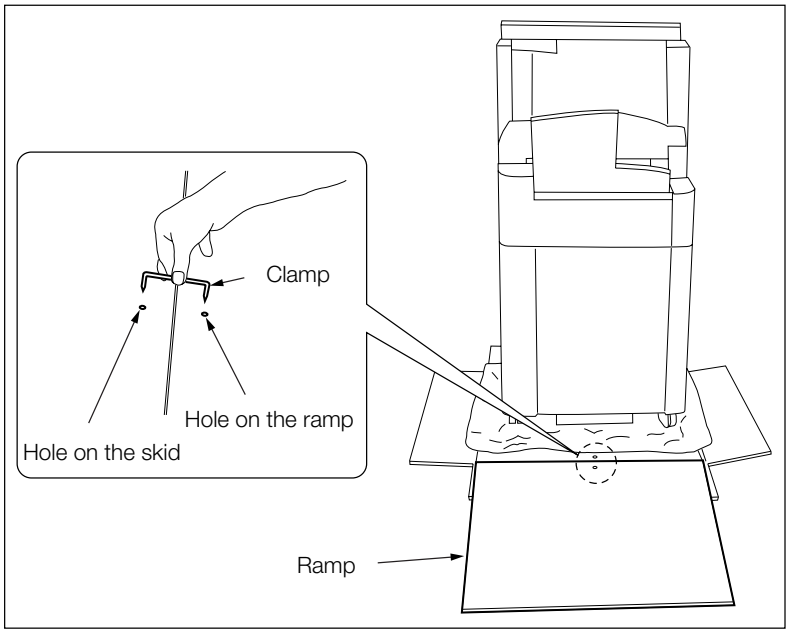


10. **Cut the bottom of dust-proof bag to remove it.**

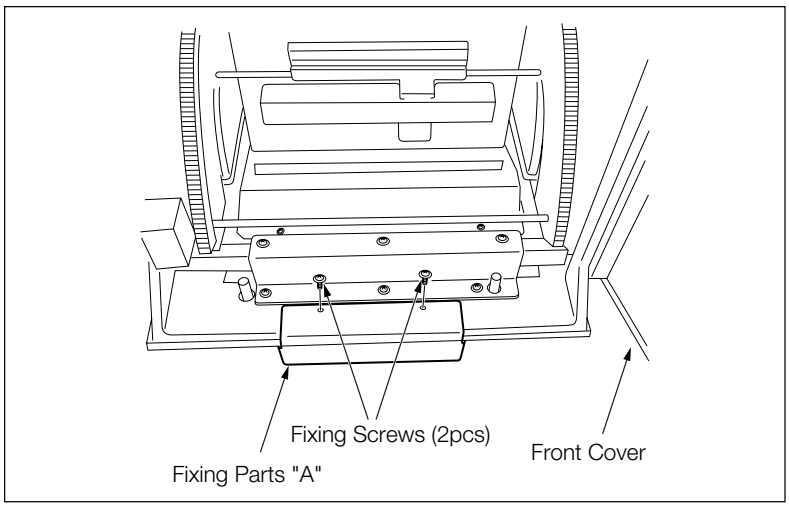
CAUTION Be careful not to damage the device with cutter knife.



11. **Place the ramp in front of the skid. Insert the cramp in the holes on both of the ramp and skid to joint each other.**



12. **Open the front cover.**



13. **Remove the fixing screws (2pcs) to remove the fixing hardware “A”.**

- The fixing hardware "A" is mounted in bottom front of the REGIUS MODEL 190 in order to press against the cushioning material. The fixing hardware has to be removed in advance to avoid hitting an obstacles during displacement.

14. **Close the front cover.**

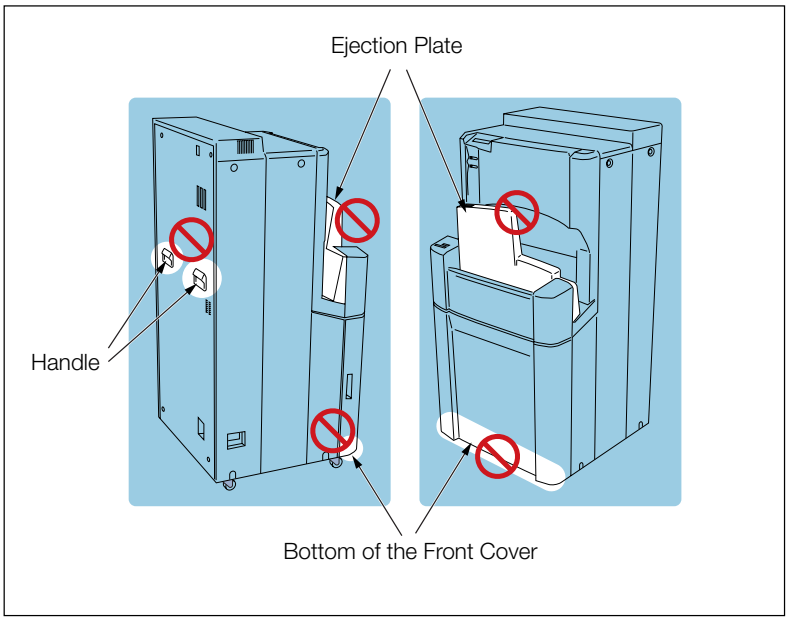
15. Support the REGIUS MODEL 190 from both sides with 2 or more persons.

WARNING

Two or more persons are required to unload the REGIUS MODEL 190 from the skid in order to avoid a turnover accident. REGIUS MODEL 190 weighs approximately 170kg. In order to moderate the speed of the REGIUS MODEL 190 sliding on the slope, 3 or more persons may be required.

CAUTION Be sure to follow the items below while unloading the REGIUS MODEL 190. The outer cover may be damaged if the device is held with improper forces.

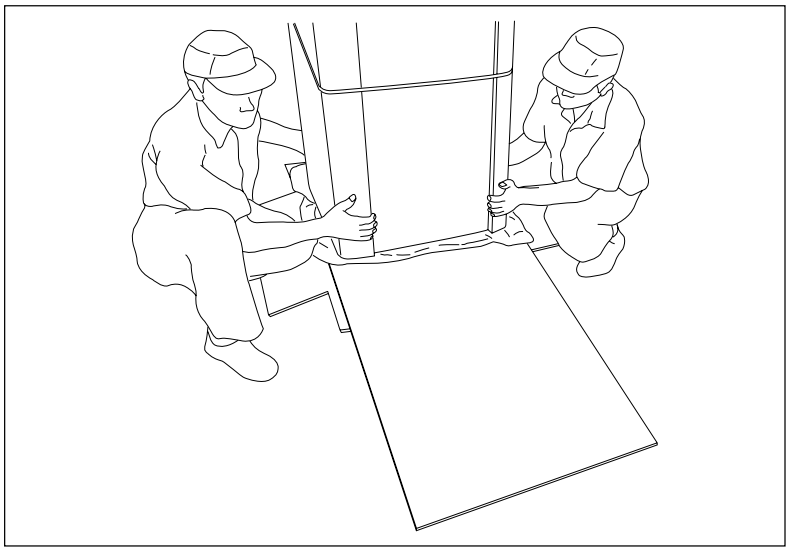
- Don't lift the front cover by holding the bottom of the cover.
- Don't hold the ejection plate.
- Don't lift the device by holding the handle on the rear side.



16. Lift the REGIUS MODEL 190 approximately 1 cm high, and lower it until the front caster contacts the slope.

17. Slowly unload the REGIUS MODEL 190 from the skid.

<IMPORTANT>Handle the REGIUS MODEL 190 as slow as possible in order to avoid physical shock when it contacts the floor.



18. Transport the REGIUS MODEL 190 to the place where it should be installed.

2.1.2 Removing of Fixing Hardware

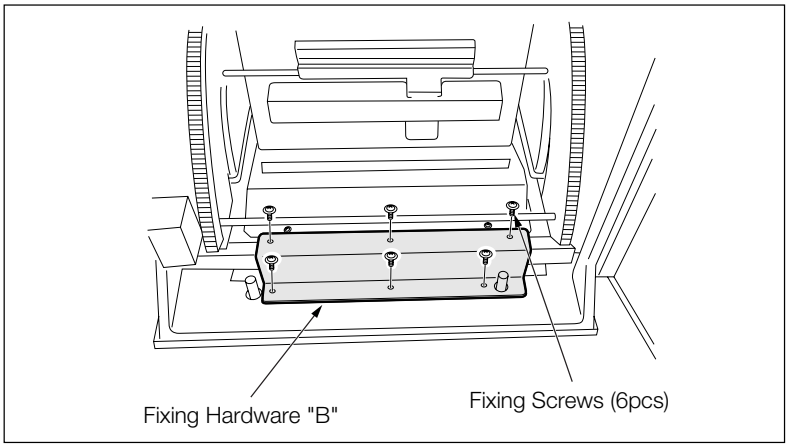
Remove the fixing hardware which supports the REGIUS MODEL 190 while transporting.

DANGER

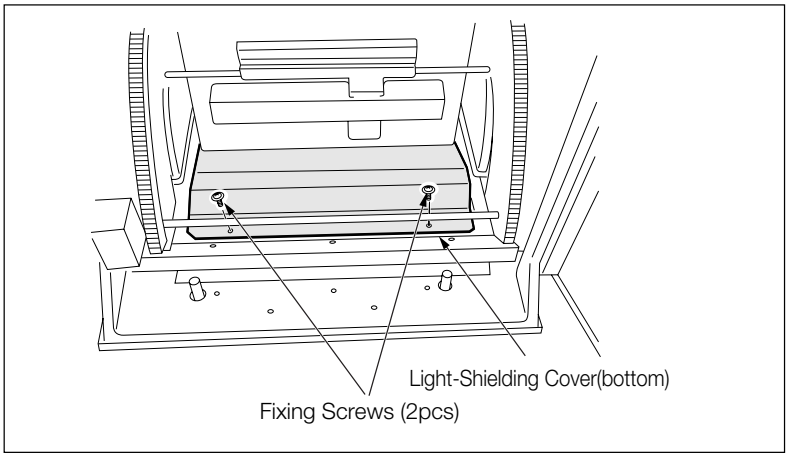
Don't touch the steel belt. (Refer to the procedure 9) The edge of the steel belt is sharp, which may seriously cut fingers.

1. **Remove the fixing screws (6pcs) to remove the fixing hardware "B".**

- **The fixing hardware "B" fixes the transport unit.**

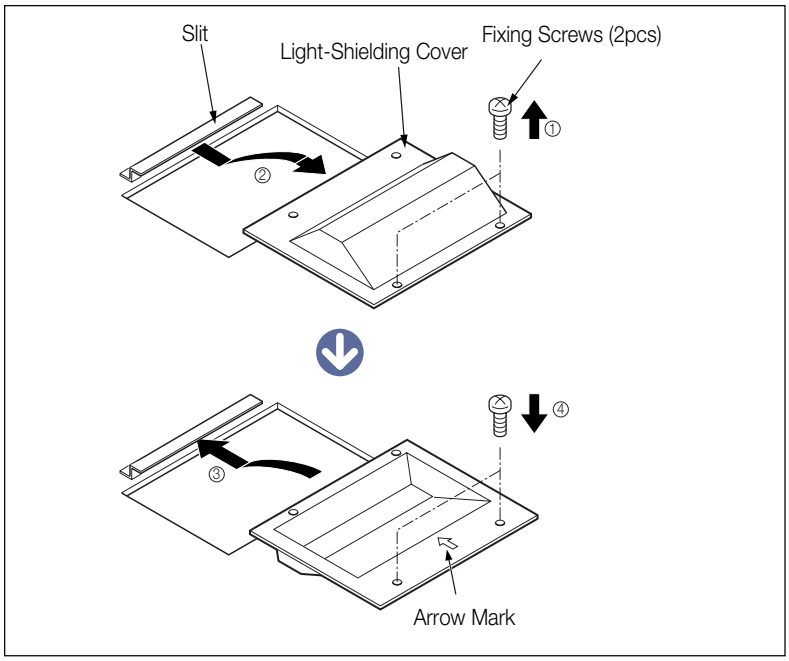


2. **Remove the fixing screws (2pcs) to remove the light shielding cover (bottom).**



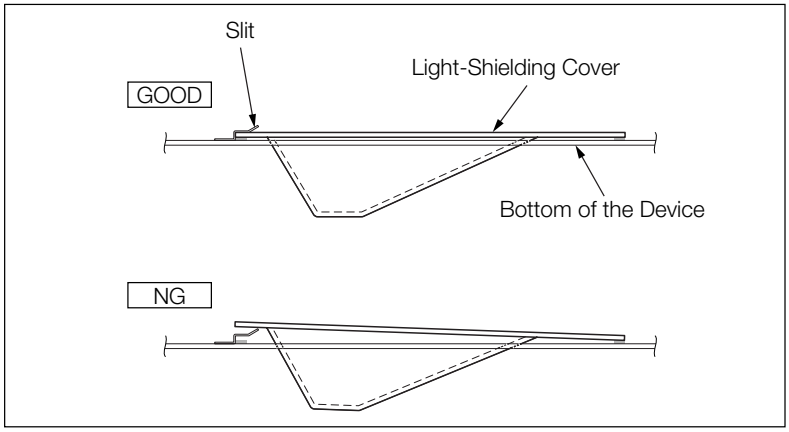
3. **Insert the light shielding cover, with its arrow printed side down, to the slit of the REGIUS MODEL 190.**

- There is a slit in the bottom of the REGIUS MODEL 190 in which the bottom cover should be inserted. The position of the slit is difficult to be located. Touch it by hand to locate its precise position before inserting the bottom cover.



4. **Push the bottom cover from its bottom in order to ensure that the bottom cover is firmly inserted and secured in the slit.**

- If there is rattle, the bottom cover hasn't been secured in the slit. Insert it again.



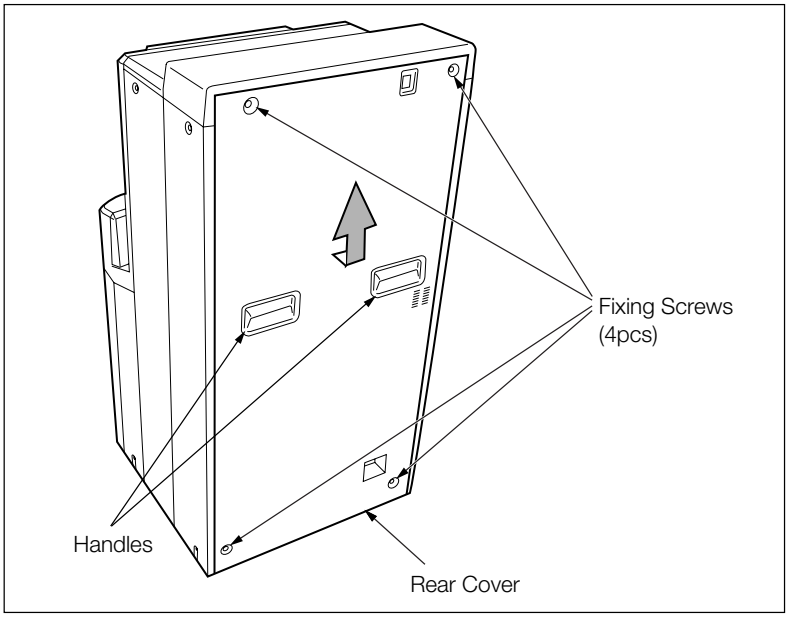
5. **Secure the bottom cover with 2 screws removed in the procedure 2.**

CAUTION **When transporting the REGIUS MODEL 190, be sure to ensure that there is no unevenness on the floor. If the light shielding cover may hit an obstacle in the transport route, which resulting in a damage to the device.**

6. **If the bundle of cable has been removed in the procedure 2, replace it to the original position.**

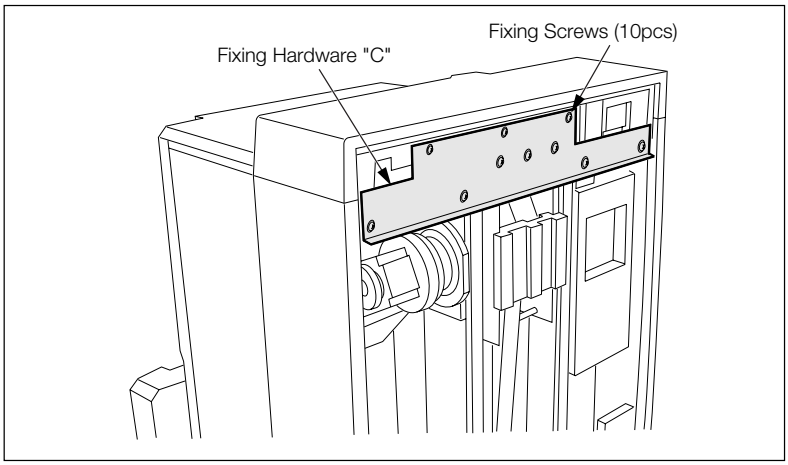
7. **Remove the fixing screws (4pcs) to remove the rear cover.**

Hold the handle on the rear cover to lift and remove it.



8. **Remove the fixing screws (10pcs) to remove the fixing hardware "C".**

- The fixing hardware "C" secures the sub-scanning unit.



9. Remove the fixing hardware “D”.

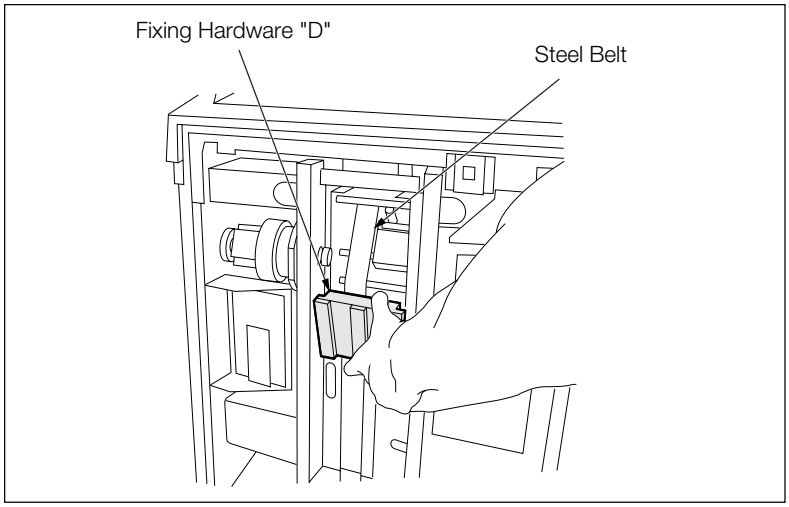
<IMPORTANT>When the fixing hardware “D” is removed, check that the steel belt is aligned to the center of the pulley. If it is not, gently pushing the tension pulley to check the belt become loose and then bring the steel belt to the center while paying attention to the belt edge.

- Fixing hardware D: Styrofoam parts to protect the steel belt.

DANGER **Don't touch the steel belt. (Refer to the procedure 9) The edge of the steel belt is sharp, which may seriously cut fingers.**

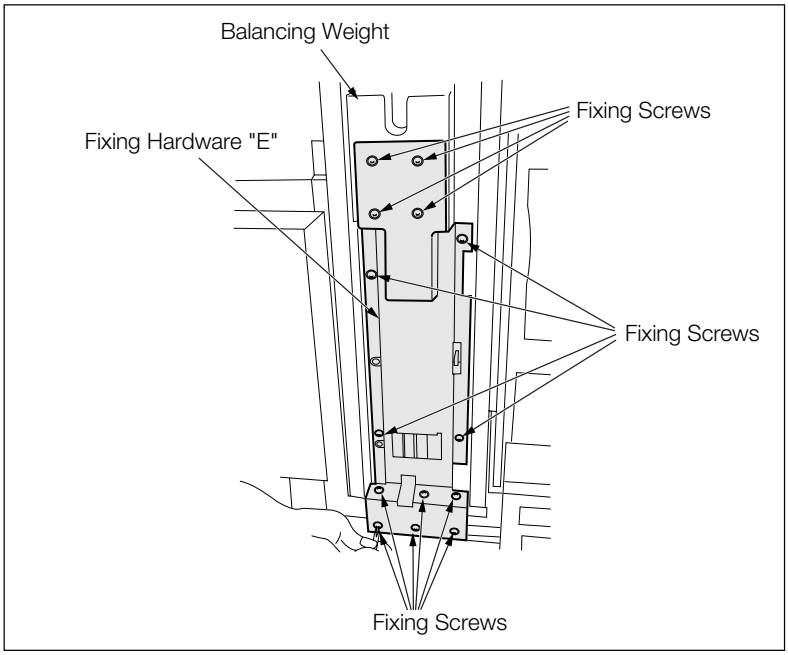
CAUTION Wear gloves when working around the steel belt, and be careful not to cut your finger with the steel belt.

CAUTION If the sebum is stuck to the steel belt, the rust may be generated on the belt or the sub-scanning unit will not work normally.

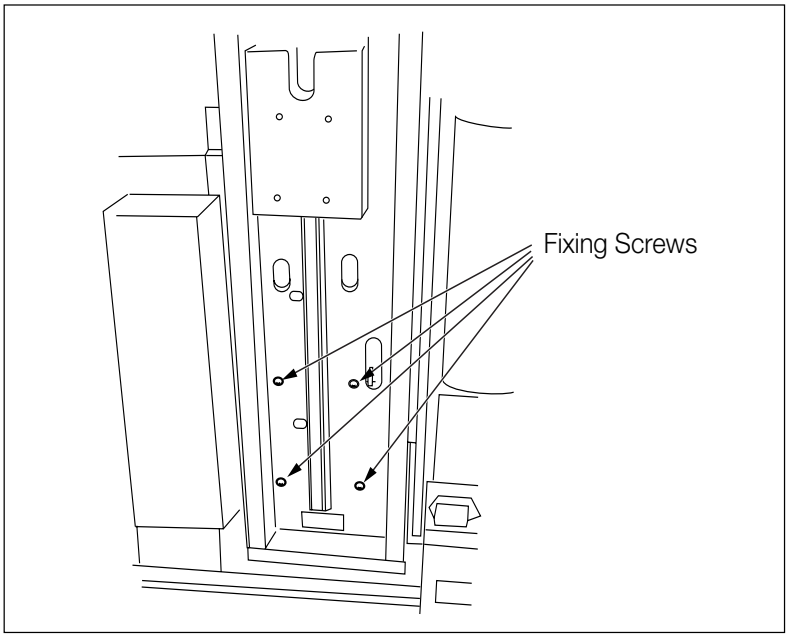


10. **Remove the fixing screws (14pcs) to remove the fixing hardware “E” while lifting up the balance weight.**

- The fixing hardware “E” secures the balance weight.

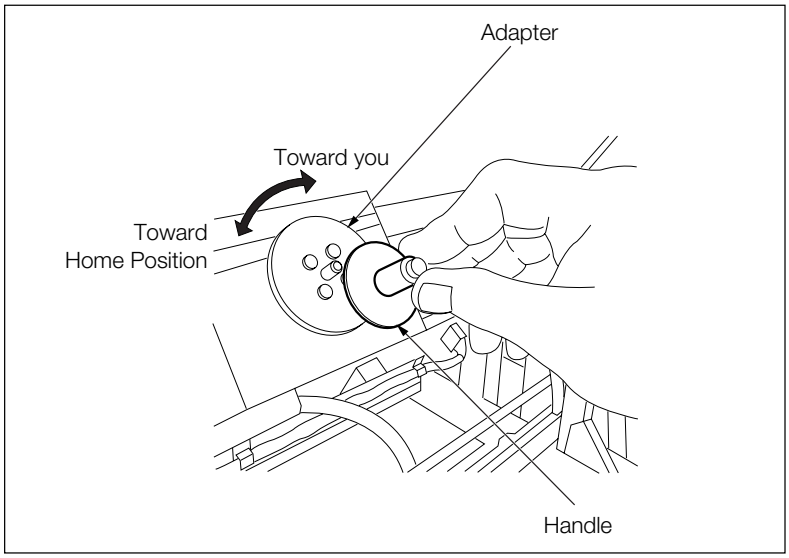


11. **Remove the fixing screws (4pcs) that secure the fixing hardware “F” on the device. Procedure 11 to 15 are for the removal of the fixing hardware “F”.**



12. **Open the front cover.**

13. **Remove the handle from its holder on the front cover to fit it in the adapter of the transport motor.**



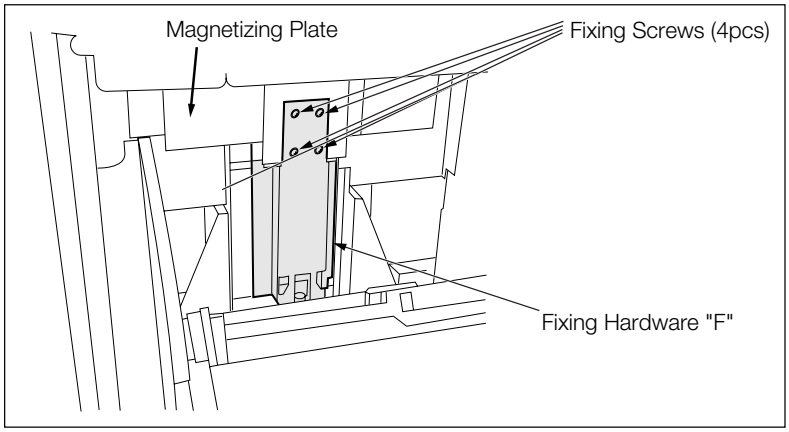
14. **Turn the handle clockwise until the transport unit tilts to its limit.**

Be sure to ensure the direction of the light shielding cover before turning the handle. (Refer to the Procedure 3.)

CAUTION **If the convex side of the light shielding cover faces up, the convex side will be pushed up by the transport unit, which resulting in a damage to the light shielding cover.**

15. **Remove the fixing screws (4pcs) to remove the fixing hardware “F”.**

- The fixing hardware “F” secures the cassette magnetizing plate from under side.

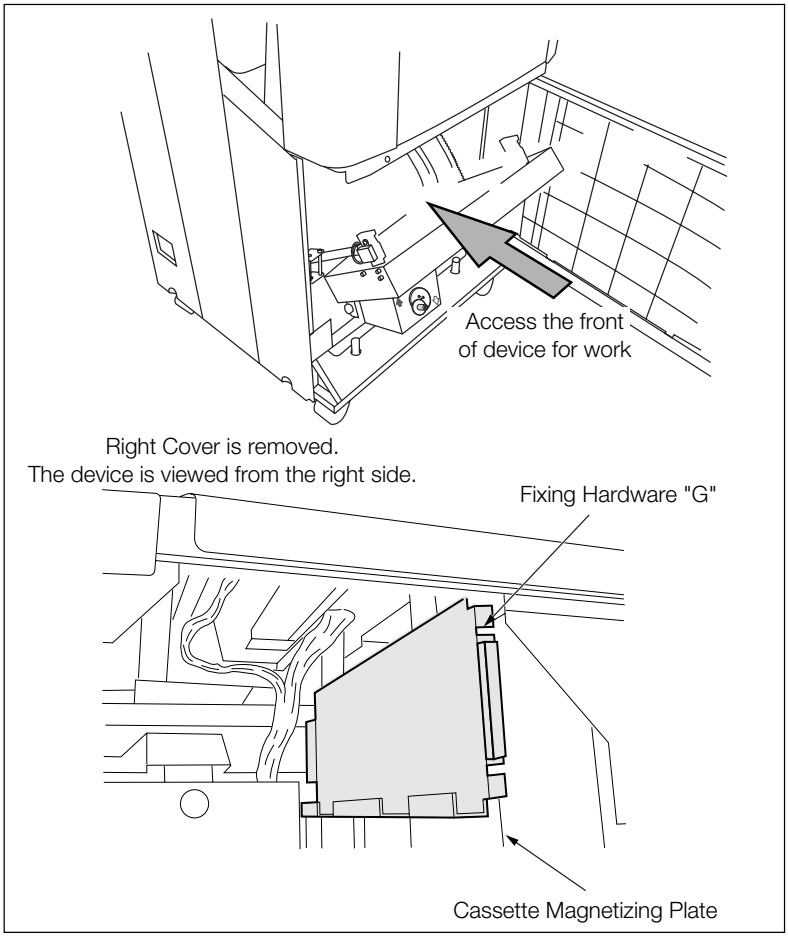


16. **Lift the balance weight until it reaches the top end.**

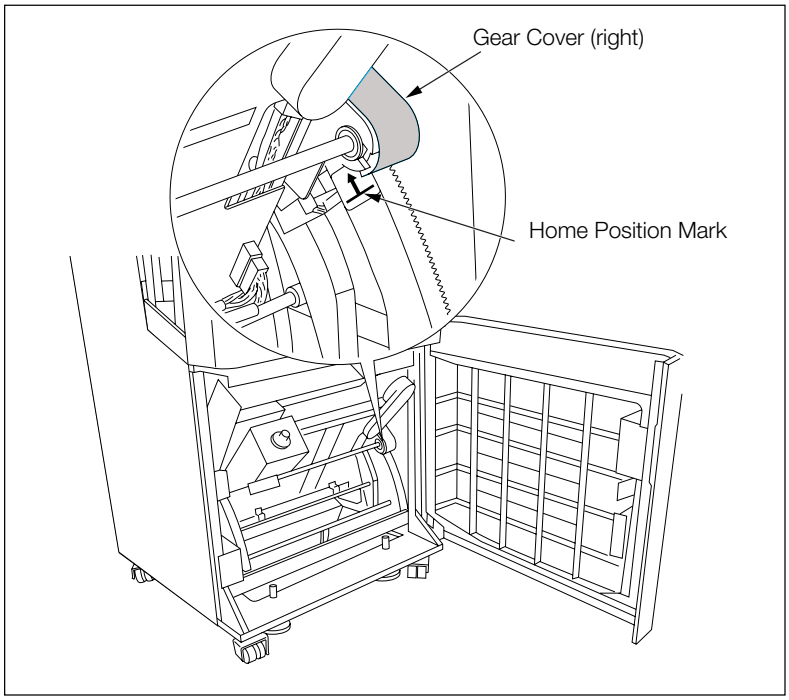
- As the balance weight is lifted up, the cassette magnetizing plate will be lowered accordingly.

17. Remove the fixing hardware “G” from the cassette magnetizing plate.

- The fixing hardware “G” protects the cassette magnetizing plate from top side, magnetically sticking to it.


Access the front
of device for work
Right Cover is removed.
The device is viewed from the right side.
Fixing Hardware "G"
Cassette Magnetizing Plate

18. Turn the handle counterclockwise until the right gear cover (blue) reaches the home position mark.



19. Return the handle to the handle holder to close the front cover.

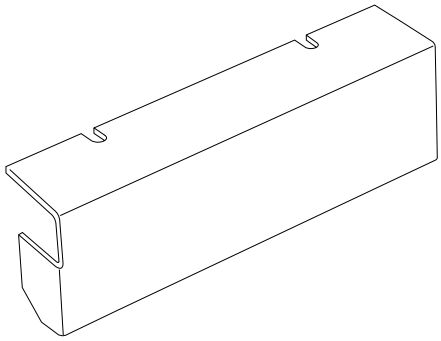
20. Return the rear cover that has been removed in the procedure 7 to the original position.

2.1.3 Checking of Fixing Hardware

Ensure that all 7 fixing hardwares are removed.

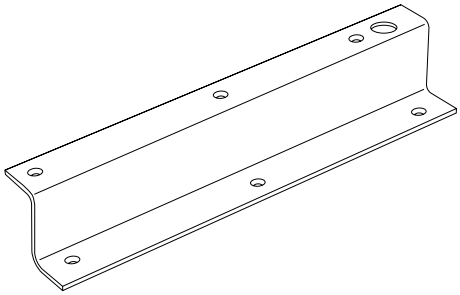
CAUTION **If the REGIUS MODEL 190 is started up with any of fixing hardwares left inside, the device will be damaged.**

Fixing Hardware "A"



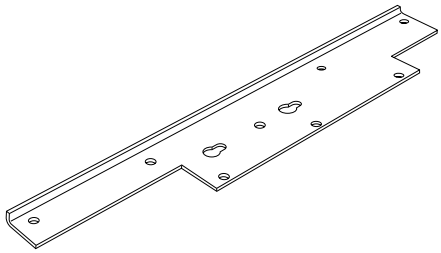
(Refer to the procedure 13 in page 16)

Fixing Hardware "B"



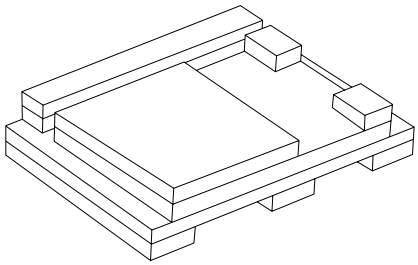
(Refer to the procedure 1 in page 19)

Fixing Hardware "C"



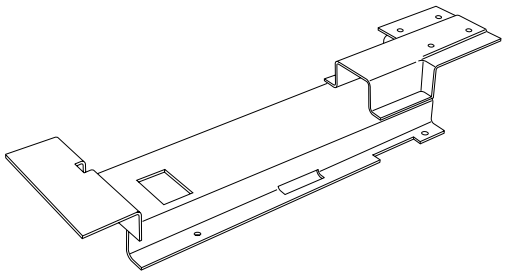
(Refer to the procedure 8 in page 21)

Fixing Hardware "D"



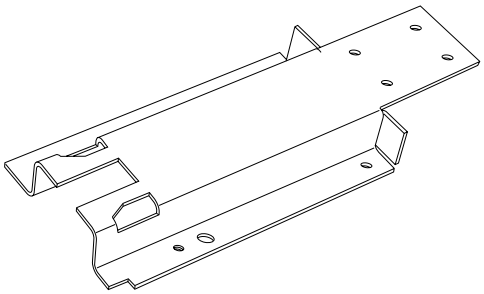
(Refer to the procedure 9 in page 22)

Fixing Hardware "E"



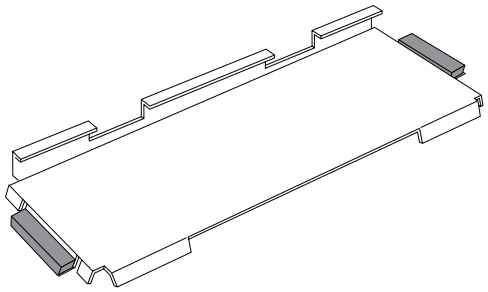
(Refer to the procedure 10 in page 22)

Fixing Hardware "F"



(Refer to the procedure 15 in page 24)

Fixing Hardware “G”



(Refer to the procedure 17 in page 24)

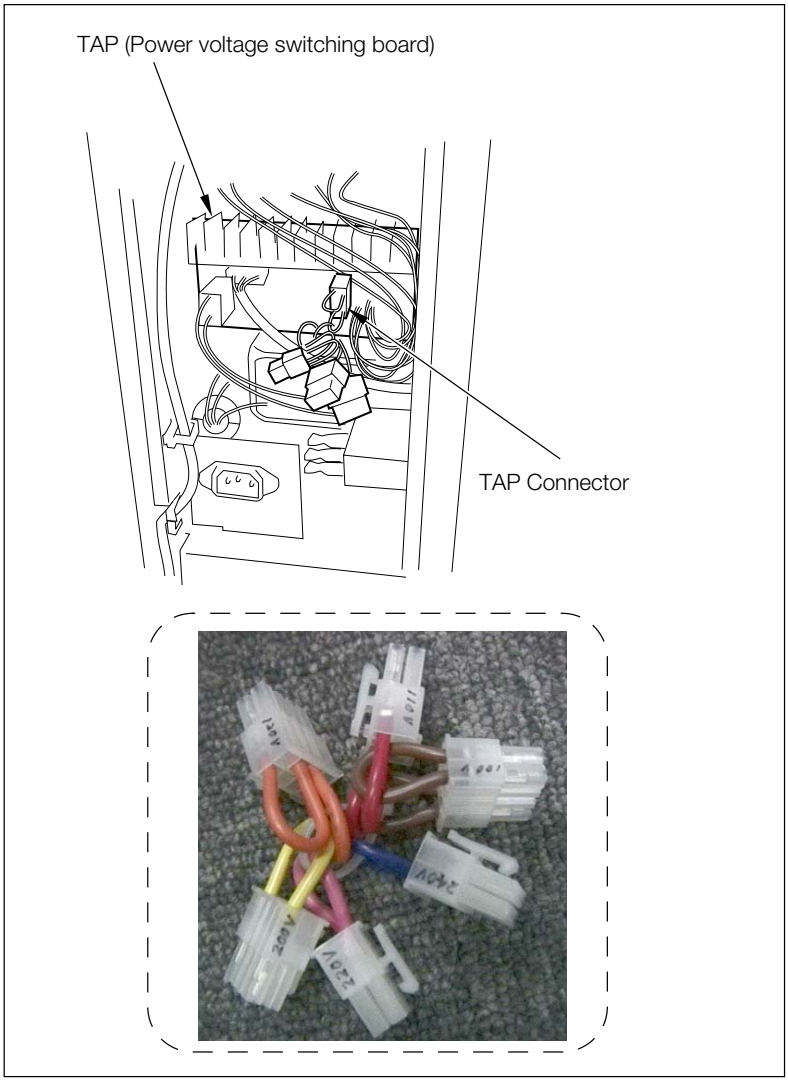
Collecting the Fixing Hardware Please collect and return the fixing hardware using the fixing hardware recycle bag.

2.2 Checking of Input Voltage

Remove the rear cover to ensure that the wiring color of the TAP connector suits to the power voltage provided from the facility.

- **The wiring color is associated with each power voltage (AC). Following list shows the correspondence between the wiring color and power voltage.**

Wire Color	Brown	Red	Orange	Yellow	Pink	Blue
Power Voltage	100V	110V	120V	200V	220V	240V



2.3 Checking after Installation

Ensure that the REGIUS MODEL 190 has not been damaged while transporting.

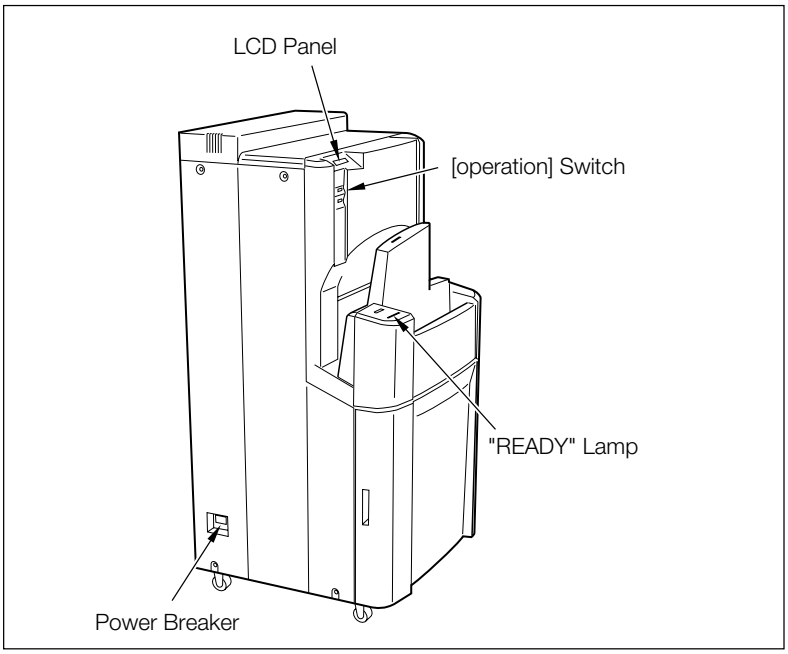
2.3.1 Power Connection

Connect between the AC inlet of REGIUS MODEL 190 and power outlet of the facility with the power cable.

2.3.2 Power ON

1. **Turn ON the power of the facility.**

2. **Turn ON the power breaker of the REGIUS MODEL 190.**



3. **Push the operation switch.**

4. **Ensure the items below.**

- **The LCD panel will show the message “INITIALIZING” and the counter.**
- **The counter will increment while initializing.**
- **When the counter reaches the right end, a message "Network Error [24000]" will appear.**
- **The LCD panel will alternately show the default MAC address and IP address.**

```
Network Error (24000)
MAC: XXXXXXXXX
```

```
Network Error (24000)
IP: XXX.XXX.XXX.XXX
```

5. **After ensuring that the REGIUS MODEL 190 is normal condition, push the operation switch for at least 5 seconds.**
The back light of LCD panel will extinguish.

2.3.3 Connecting to Network

Checks of REGIUS 190 operation shall be performed by the CS-3/CS-1 that is connected with the REGIUS 190.
For details of the network settings, refer to the “REGIUS Console CS-3/CS-1 Installation/Service Manual”.

Setting the Network

Connect the REGIUS 190 with the CS-3/CS-1 in 1 to 1 configuration, and set the network condition.

- **Refer to the "Network Setting” of the “REGIUS Console CS-3/CS-1 Installation/Service” manual.**

Connecting to the Network

After completing the network setup, connect to the facility’s network.

- **Refer to the “Connecting the System” of the ”REGIUS Console CS-3/CS-1 Installation/Service” manual.**

Checking the Output Image

Read the halftone density, and check the image quality.

- **Refer to the “Checks and Back up of the Setup Data” of the “REGIUS Console CS-3/CS-1 Installation/Service” manual.**

Back up of CF Card Data

Back up the data in the CF card mounted on the SCB2 of REGIUS MODEL 190 onto the CS-3/CS-1.

- **Refer to the “Checks and Back up of the Setup Data” of the “REGIUS Console CS-3/CS-1 Installation/Service” manual.**

<IMPORTANT>Network data and other setting data that are unique to each REGIUS 190 are stored in the CF card. Availability of the back up data will greatly help set up of the REGIUS 190 when the CF card needs to be replaced. Always back up the data in the CF card at the time of installation.

2.3.4 Fixing of Adjuster Foot

After confirming with the facility's administrator that the installation site is appropriate, pull down the adjuster foot (2pcs) at the front bottom of REGIUS MODEL 190 to secure it to the floor.

1. **Rotate and lower the adjuster foots using 26mm(M16) spanner until the front adjuster foot firmly contact the floor and its rubber part is slightly depressed. Lower the adjuster foots so that the device does not mover right and left.**
2. **Gently shake the REGIUS MODEL 190, and confirm that it is firmly fixed to the floor.**

2.3.5 Checking of Cassette

- **Ensure that 1 or more hours have passed after the REGIUS plate had been installed to the cassette.**
- **Ensure that all claws of the cassettes are properly set into the front panel.**
- **Be sure to give the declaration of conformity to the user.**

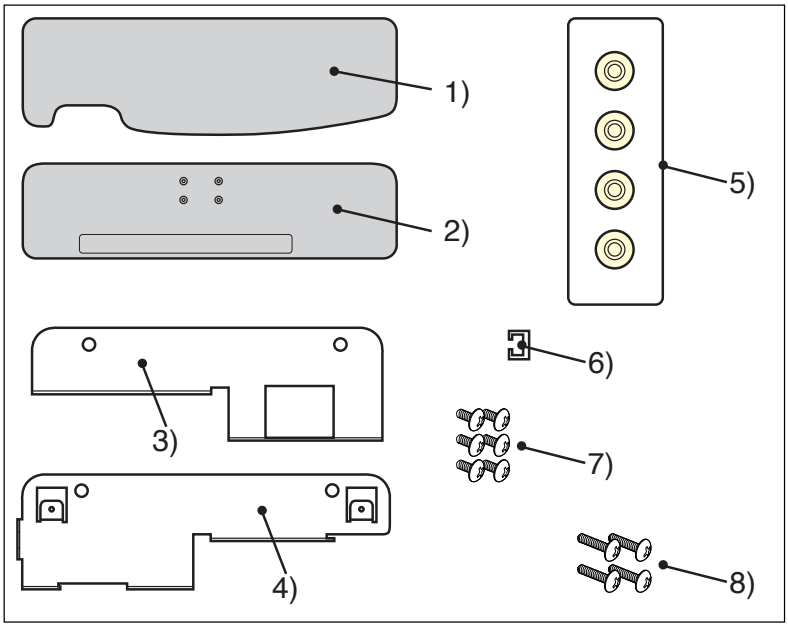
Chap3 *Installation of the Optional Equipment*

3.1 Installation of CS-2/3 LCD Mounting Table with Arm (Table)

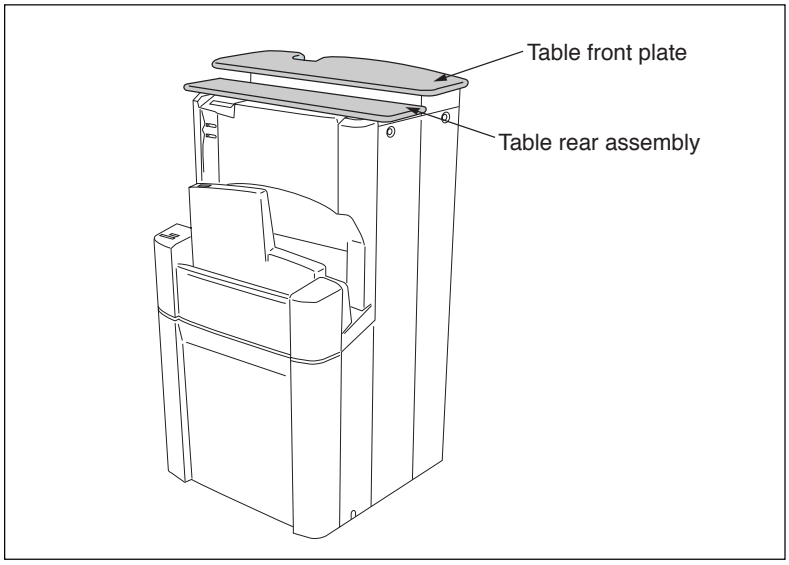
How to install the CS-2/3 LCD Mounting Table with Arm (Table) on the REGIUS 190 and to the CS-1/2/3 Operation Unit's Arm is described below.

1. Check that all of following components are ready on your hand.

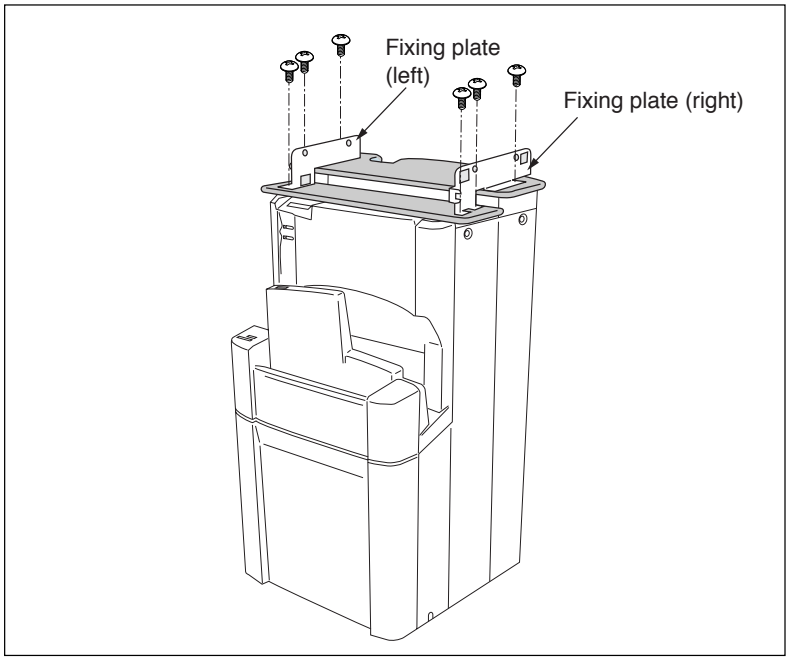
	Delivered	pcs
1. CS-2/3 LCD Mounting Table with Arm (Table) (refer to the diagram below)	1)Table front plate	1
	2)Table rear assembly	1
	3) Fixing plate (left)	1
	4) Fixing plate (right)	1
	5) Collar	4
	6) Edge saddle	1
	7) Truss screw (M4x8)	6
	8) Truss screw (M4x20)	4
	9) Operation Manual	1
2. REGIUS 190		
3. CS-1/2/3 Operation Unit		
4. Monitor Arm	1) Monitor Arm	1
	2) Arm Cover	2
	3) W/SW Ni/Fe(M4x12)	4
	4) Cap for Arm Mount Fixing Screw Hole	2
	5) Operation Manual	1



2. **Place the Table Front Plate on the Upper Top Cover and Table Rear Plate on the Lower Top Cover of the REGIUS 190 with their two screw holes at the both edges are facing front.**



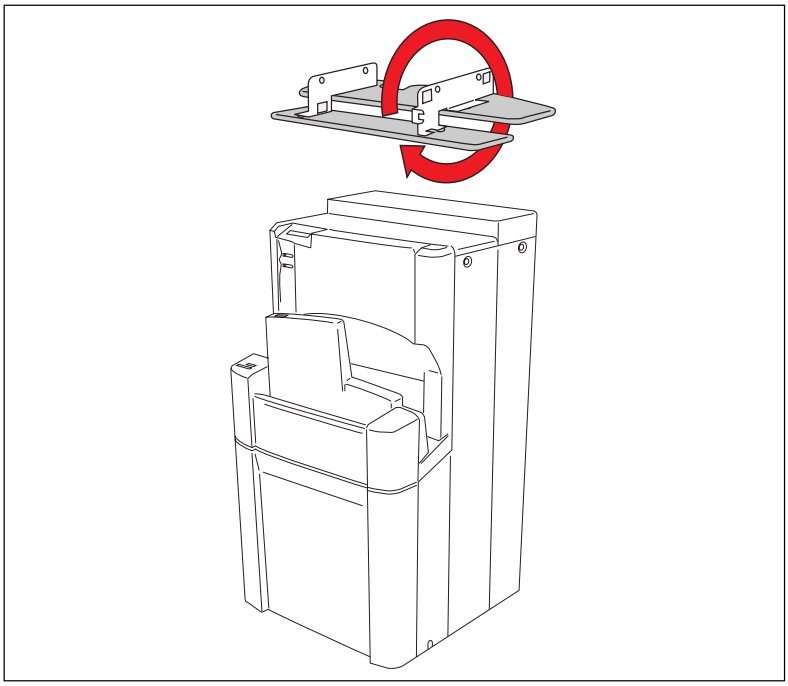
3. **Place the Fixing Plates (Right and Left) on the Table Front Plate and Table Rear Plate as shown in the diagram, and fix them with six truss screws (M4x8).**



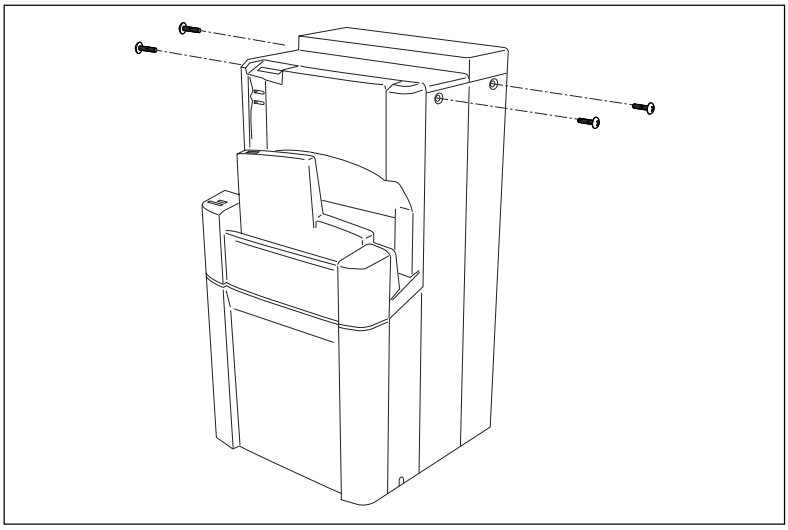
- Use one truss screw (M4x8) each to fix the Fixing Plates to the Table Front Plate.
- Use two truss screws (M4x8) each to fix the Fixing Plates to the Table Rear Plate.

Note : The screw hole of the Fixing Plate (Right) has a play. Do not tighten the screw before the final adjustment is completed.

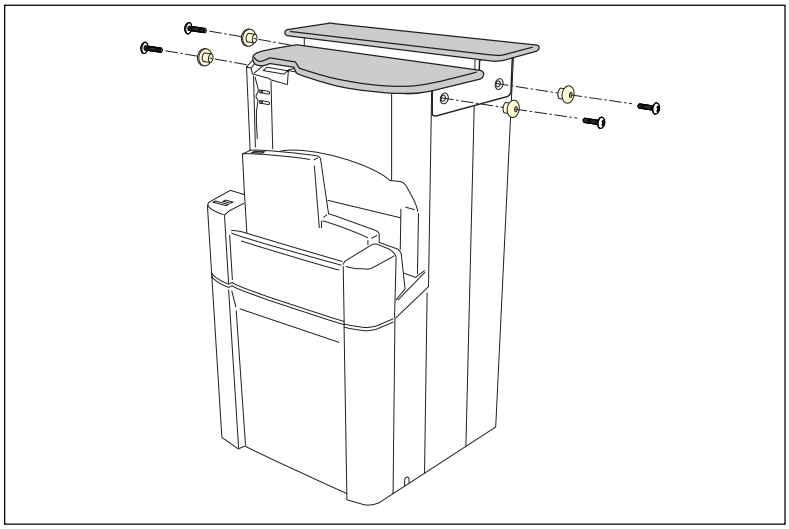
4. Hold and lift the table assembled in the step 3, and reverse it and place on the Top Cover of the REGIUS 190.



5. Remove four screws from the upper edges of the right and left Side Covers of the REGIUS 190.

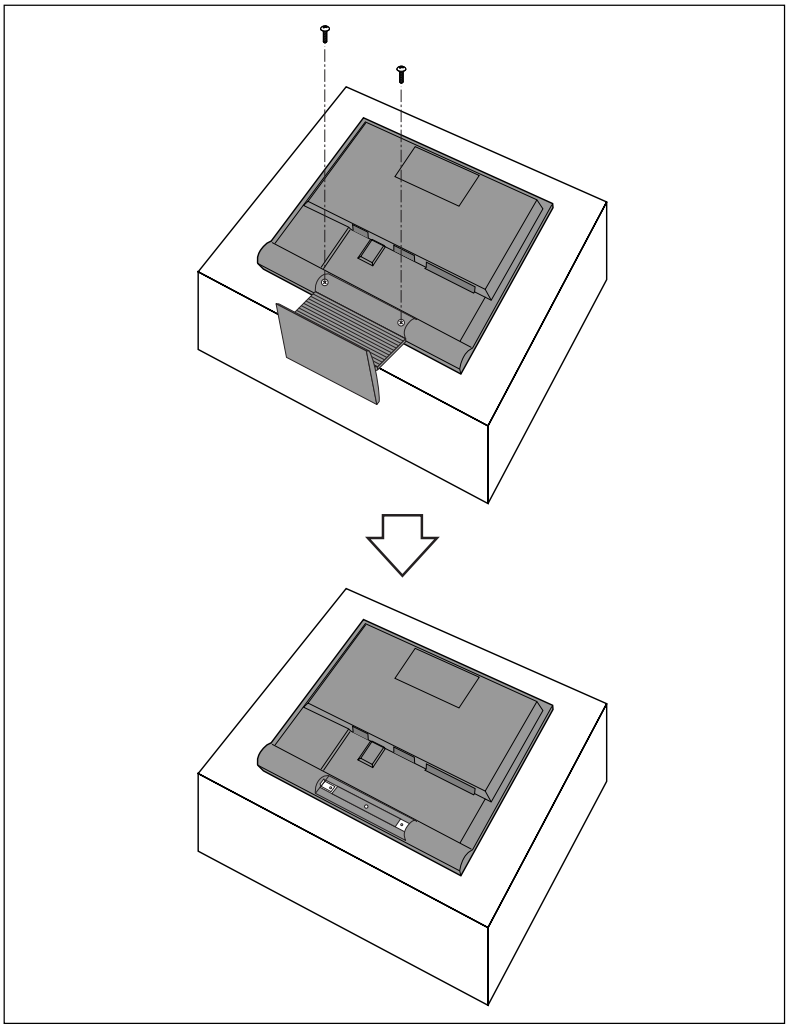


6. Using four screws (M4x20) with collars, fix the Fixing Plates to the REGIUS.



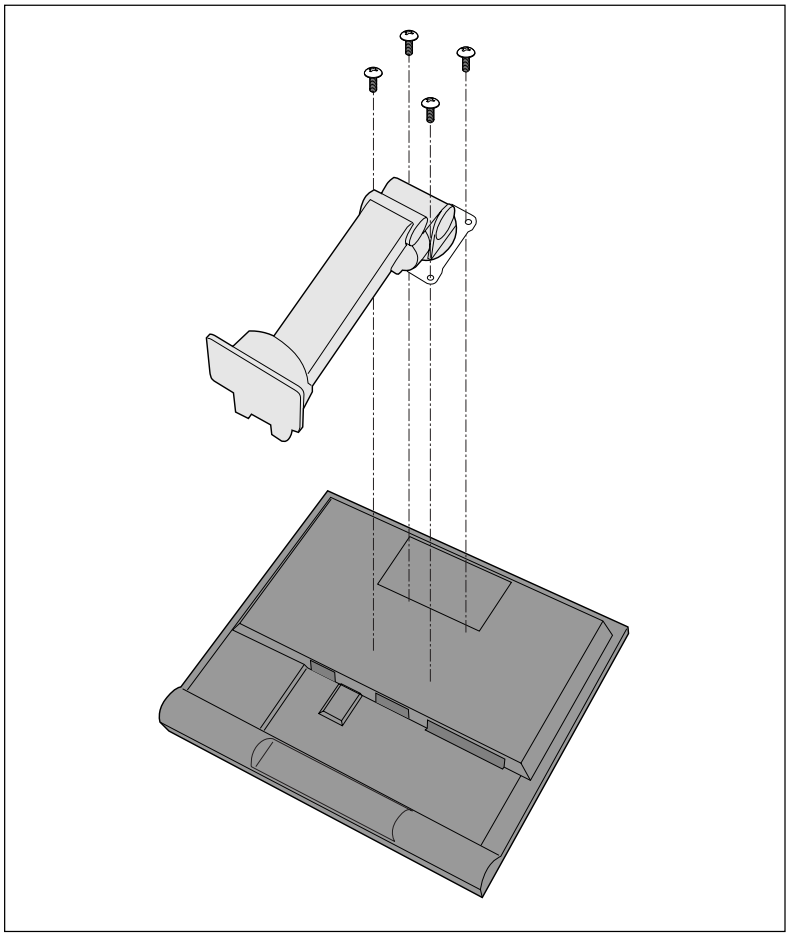
7. Unplug all cables when they are connected to the CS-1/2/3 Operation Unit.

8. Remove two “W/SW Ni/Fe (M4 x 12)” and remove the mount when the mount is attached to the CS-1/2/3.

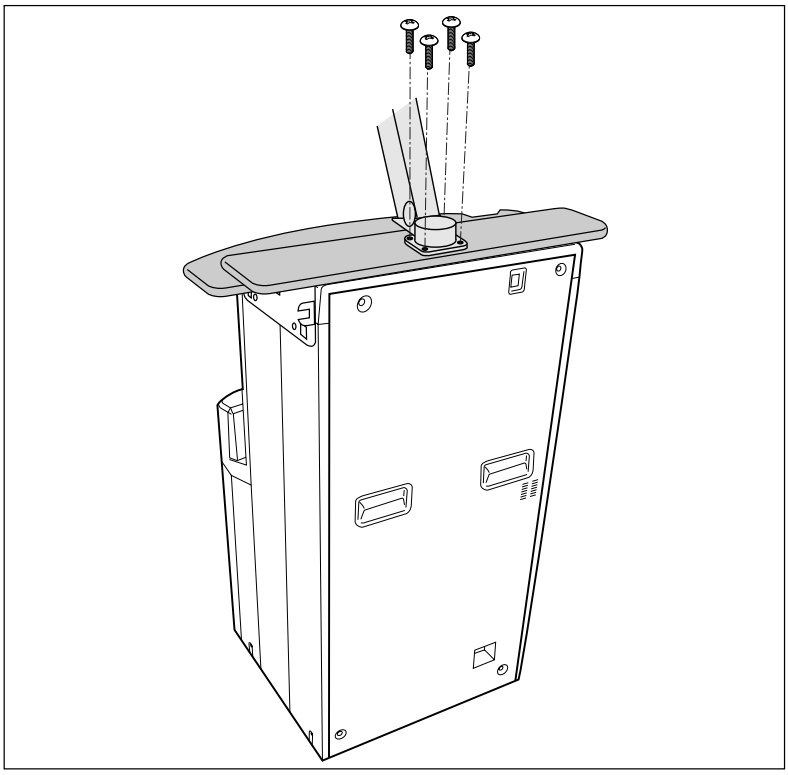


<IMPORTANT>For the step 7 and 8, work can be facilitated if the Operation Unit is placed on a flat table with its touch panel surface facing downward.

9. Fix the Monitor Arm to the rear of the Operation Unit with four screws of “W/SW Ni/Fe (M4 x 12)”.

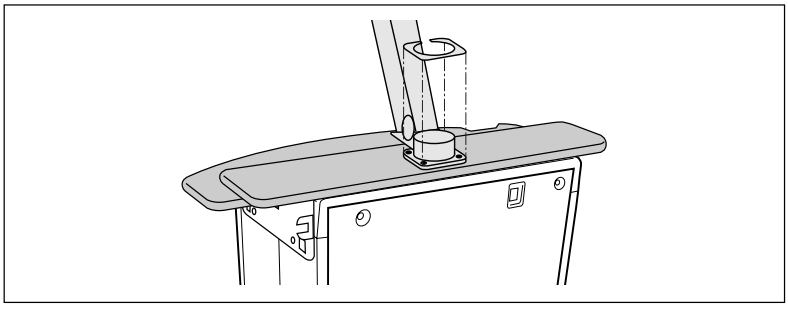


10. Place the Monitor Arm on the Table Rear Plate and fix with four truss screws (M4x29).



CAUTION The Monitor Arm with the Operation Unit installed is very unstable. Due care should be taken not to drop or fall it. When two persons are available for the work, one holds the Operation Unit while the other is fixing the screws.

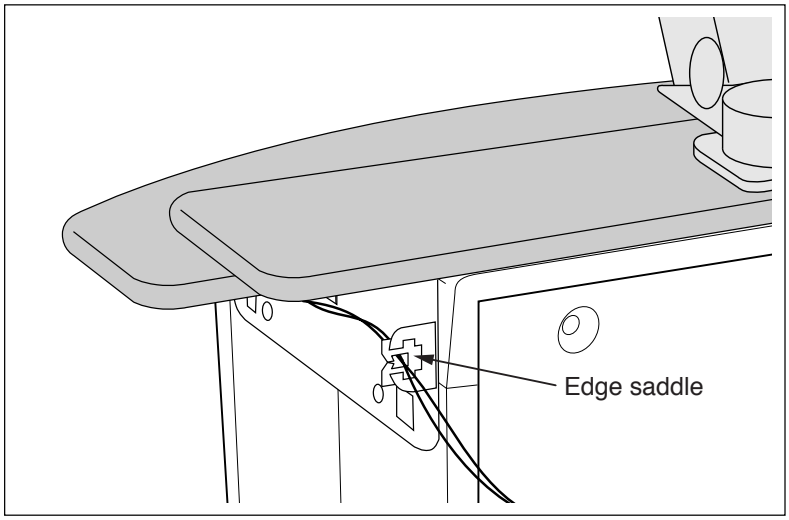
11. Affix the Screw Hole Concealing Sticker so that the screws attached in the step 10 are not visible.



12. When CS-2/3 LCD Mounting Table with Arm (PC Rack), proceed to "3.2 Installation of CS-2/3 LCD Mounting Table with Arm (PC Rack)".

13. **Attach the Edge Saddle to the Fixing Plate (Right).**

Bundle and put through the Edge Saddle the cables for mouse, keyboard and barcode reader.



14. **Connect the cables according the instructions given in the Installation/Service Manual for CS-1/2/3.**

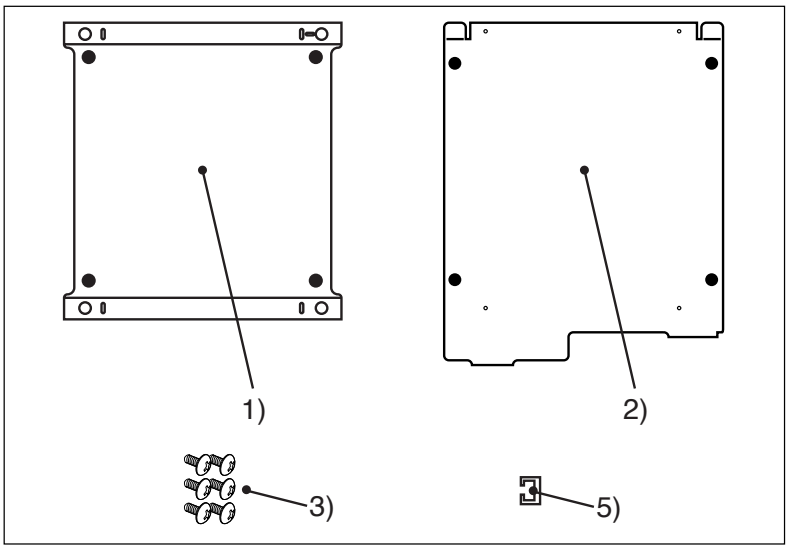
3.2 Installation of CS-2/3 LCD Mounting Table with Arm (PC Rack)

How to install the CS-2/3 LCD Mounting Table with Arm (PC Rack) on the REGIUS 190 is described below.

<IMPORTANT>Before installing the CS-2/3 PC Rack on the REGIUS 190, it is necessary that the CS-2/3 LCD Mounting Table with Arm (Table) has been installed. CS-2/3 LCD Mounting Table with Arm (PC Rack) cannot be installed by itself alone.

1. Check that all of following components are ready on your hand.

	Delivered	pcs
Option (CS-2/3 LCD Mounting Table with Arm (Table))	1) Rack top assembly	1
	2) Rack base assembly	1
	3) Truss screw (M4x8)	6
	4) Operation Manual	1
	5) Edge saddle	1

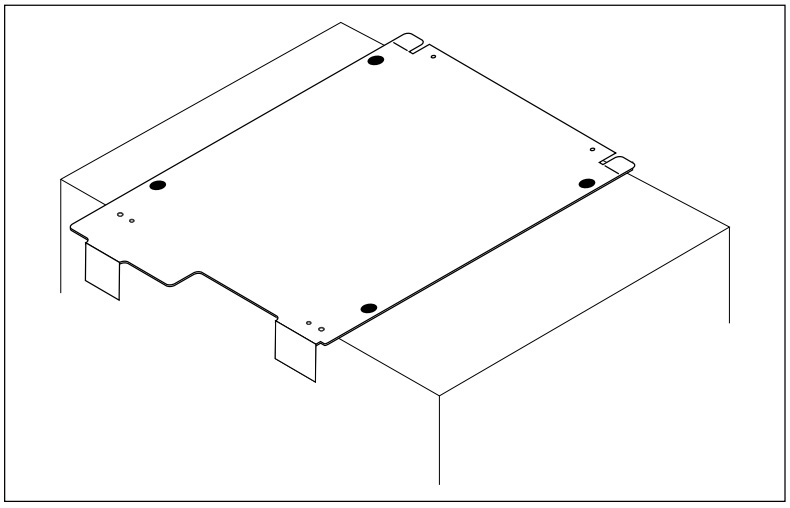


Assembling the CS-2/3 LCD Mounting Table with Arm (PC Rack)

1. Install the CS-2/3 LCD Mounting Table with Arm (Table).

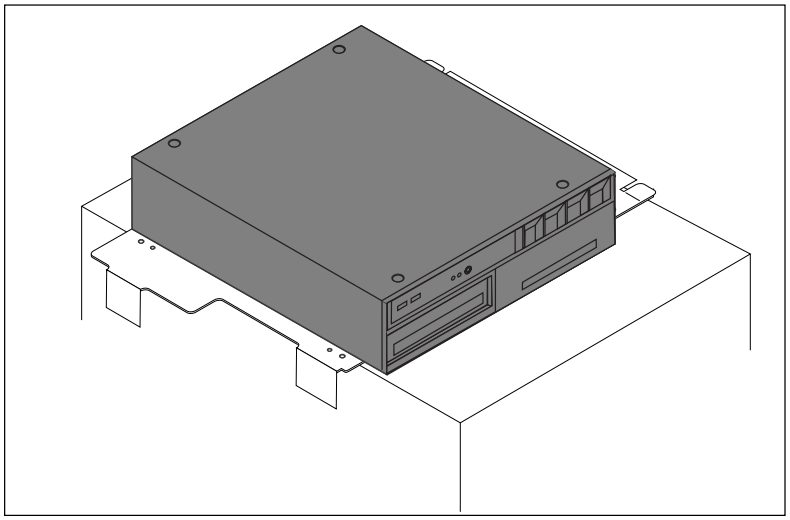
2. Turn off the power of CS-1/2/3, and unplug all cables from the Control Unit.

3. Place the Rack Base Assembly on a flat table as shown in the diagram.

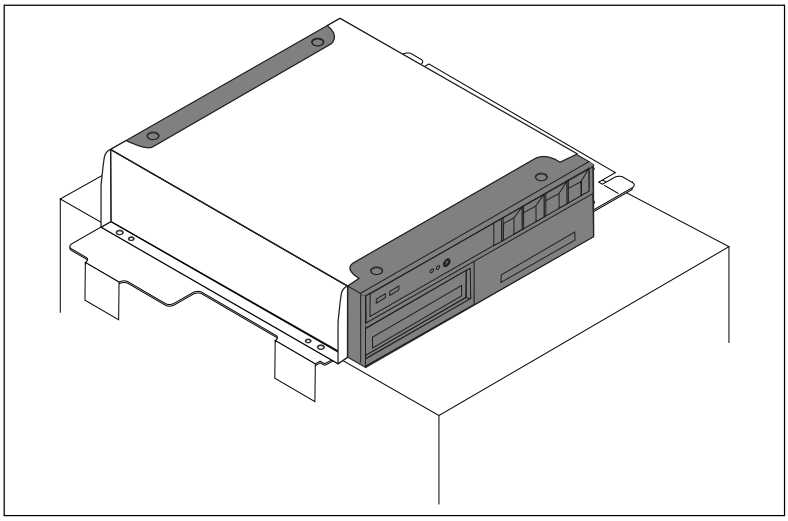


4. Place the Control Unit (PC) on the Rack Base Assembly with the direction as shown in the diagram.

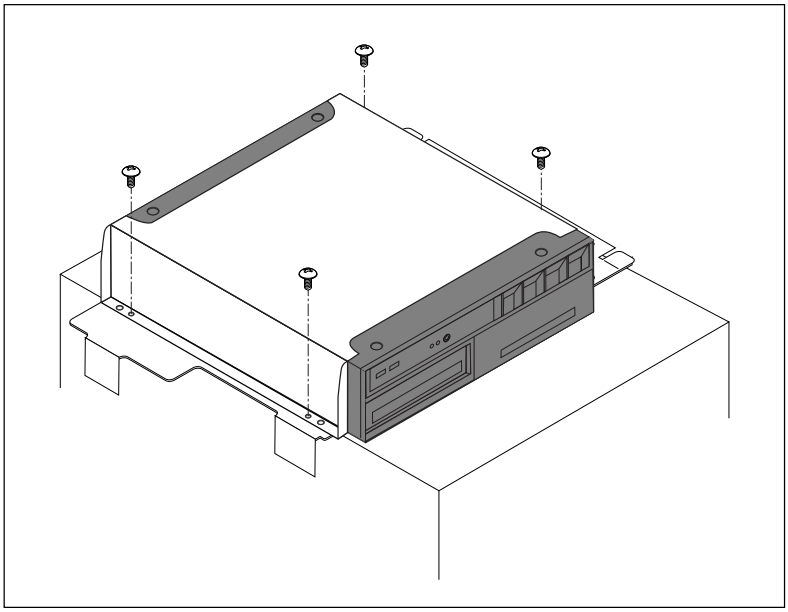
<IMPORTANT>Align the rear face to the rear edge of the Rack Base Assembly.



5. **Attach the Rack Top Assembly to the Control Unit as shown in the diagram.**



6. **Fix the Rack Top Assembly to the Rack Base Assembly with four truss screws (M4x8).**
<IMPORTANT>Attach the screws to the holes near the center.

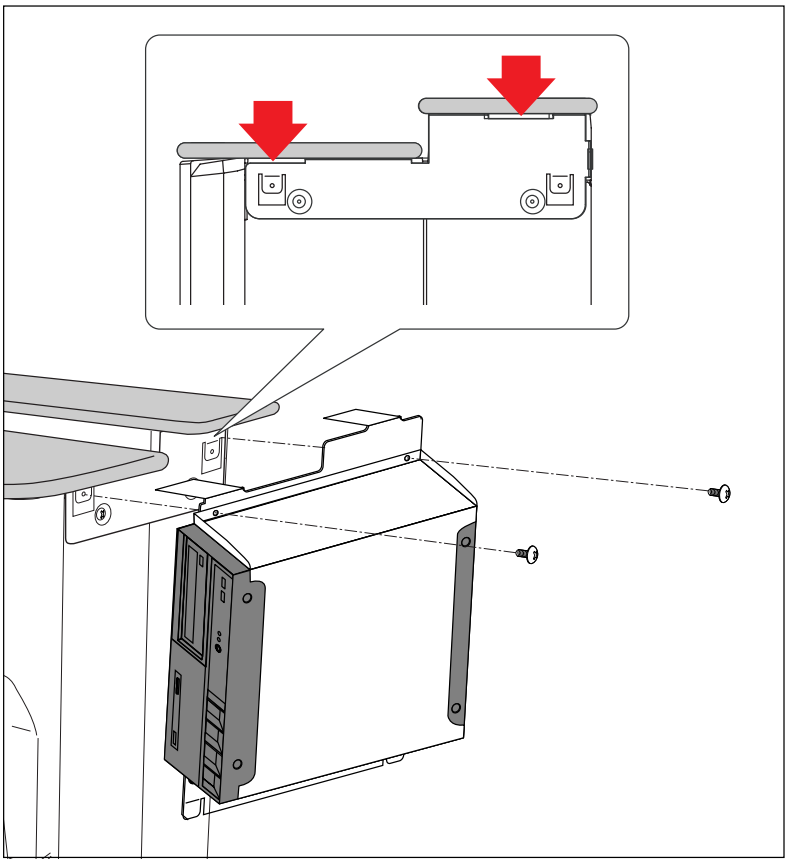


- Fixing the Rack Top Assembly to the Rack Base Assembly allows the Control Unit to be fixed to the Rack Base Assembly.

Installing the CS-2/3 PC Rack to the CS-2/3 LCD Mounting Table with Arm (Table)

1. Engage the crows of the CS-2/3 LCD Mounting Table with Arm (PC Rack) with the right edge of the REGIUS 190 and fix it with two truss screws (M4x8).

<IMPORTANT>Insert the CS-2/3 PC Rack to the CS-2/3 LCD Mounting Table with Arm (PC Rack) into the gaps at the side of the REGIUS 190, and slightly slide it toward the rear.



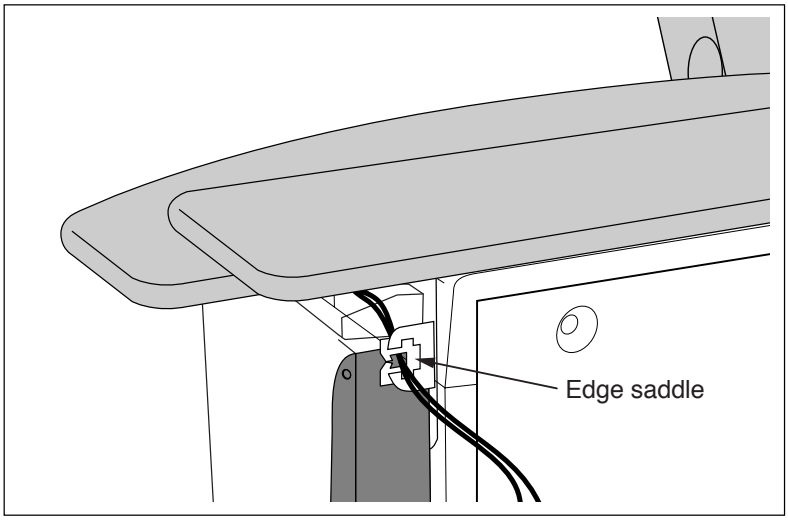
CAUTION Make sure that the CS-2/3 LCD Mounting Table with Arm (PC Rack) is firmly hooked on the REGIUS 190. Failure in engagement may cause fall of the CS-2/3 LCD Mounting Table with Arm (Table) while the table is being secured with screws. Due care should be taken.

CAUTION CS-2/3 LCD Mounting Table with Arm (PC Rack) at this stage is heavy. Be careful not to drop it when hooking it at the right side of the REGIUS 190.

CAUTION Fix the screws immediately after hooking the CS-2/3 PC Rack at the right side of the REGIUS 190. Do not leave it unscrewed.

2. **Attach the Edge Saddle to the Fixing Plate (Right).**

Bundle and put through the Edge Saddle the cables for mouse, keyboard and barcode reader.



3. **Connect the cables according the instructions given in the Installation/Service Manual for CS-1/2/3.**

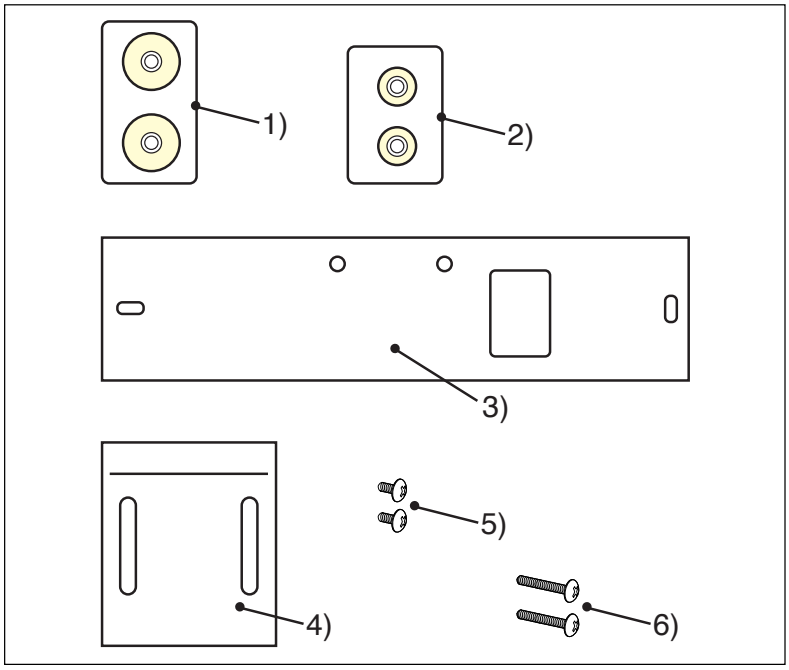
3.3 Installation of CS LCD Monitor Fixing Metal.

How to install the CS LCD Monitor Fixing Metal on the REGIUS 190 is described below.

CAUTION **CS-2/3 LCD Monitor Fixing Metal is to reduce the risk of the monitor falling down by means of fixing the CS-2/3 Wide View Monitor to the Upper Top Plate of the REGIUS 190.**

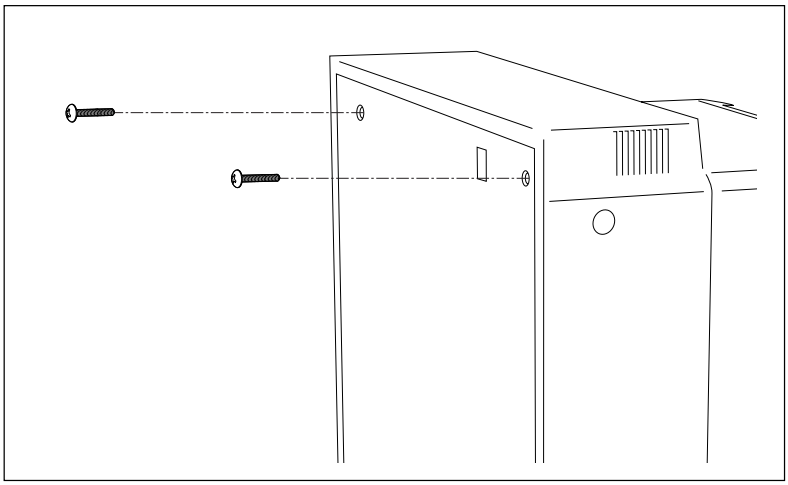
1. **Check that all of following components are ready on your hand.**

	Delivered	pcs
1. Option (CS-2/3 LCD Mounting Table with Arm (Table))	1) Collar 1 (Large)	2
	2) Collar 2 (Small)	2
	3) Holding base	1
	4) Holding plate	1
	5) Truss screw (M4x8)	2
	6) Truss screw (M4x30)	2
	7) Operation Manual	1
2. REGIUS 190		
3. CS-1/2/3 Operation Unit		

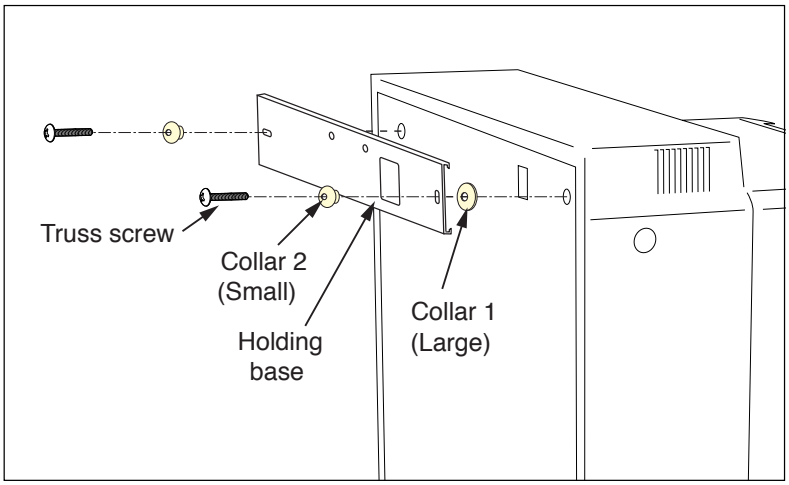


2. **Unplug the LAN cable when it is connected to the REGIUS 190.**

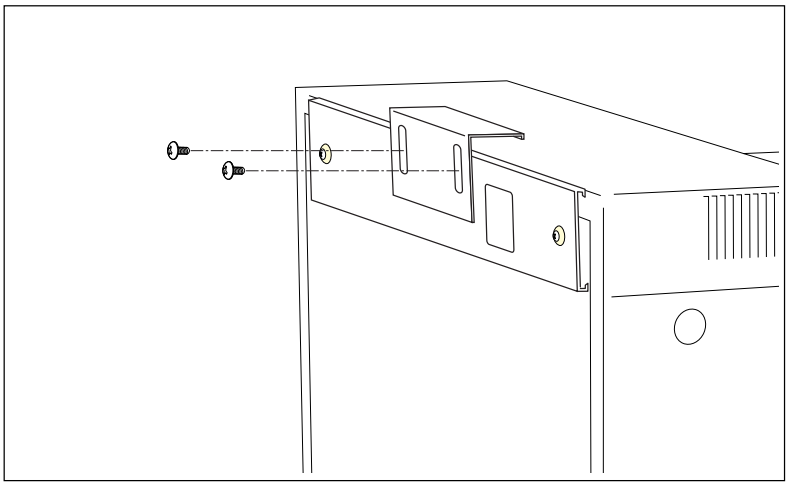
3. Remove two screws from the upper rear of the REGIUS 190.



4. Sandwich the Holding Plate Base with Collar 1s(Large) and Collar 2s (Small), and fix the Holding Plate Base with two truss screws (M4x30) to the REGIUS 190.

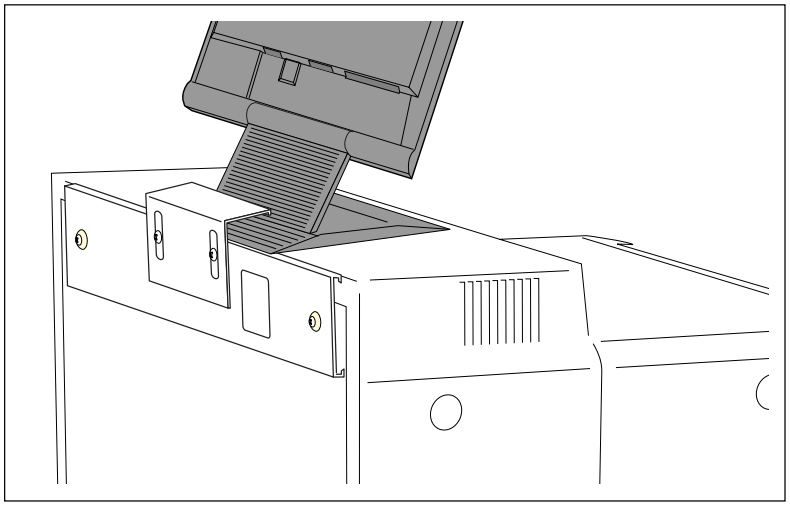


5. With two truss screws (M4x8), temporary fix the Holding Plate to the Holding Plate Base that has been fixed in the step 4.



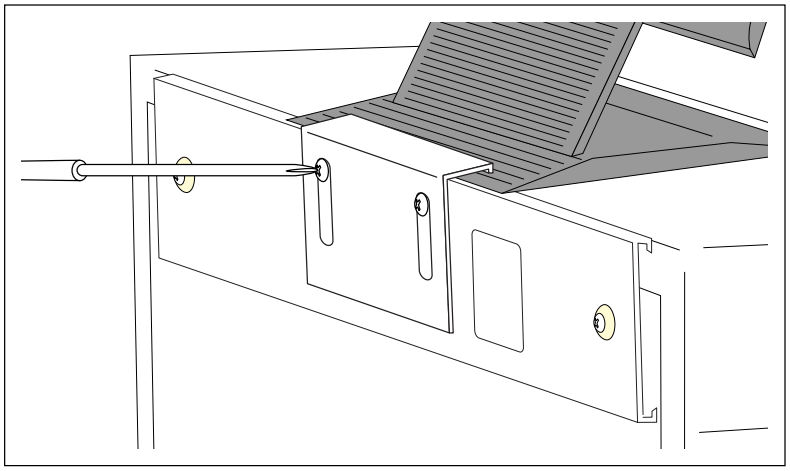
6. Place the Control Unit on the REGIUS 190.

<IMPORTANT>Align the rear edge of the stand to the rear edge of the REGIUS 190.



CAUTION Please note that the CS LCD Monitor Fixing Metal and the CS-2/3 LCD Mounting Table with Arm (Table) are different in shape and purpose. The CS LCD Monitor Fixing Metal cannot be installed in combination with the CS-2/3 LCD Mounting Table with Arm (Table).

7. Adjust the crow of the Holding Plate attached in the step 3 so that the stand of the Control Unit fits to the crow. Then tighten the screws.



8. Connect the LAN cable that has been unplugged in the step 2.

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